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DETROIT**INSIDE DOPE**

by GEORGE F. TAUBENECK

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 The 'Pro' Game Is Better

Stories of the Week

Two carrier pigeons were flying as fast as they could. The second pigeon, who got a late start, overtook his slower buddy.

"Hey!" pigeon-talked the first. "You can't pass me. I'm carrying a personal note from President Truman."

"Get out of the way," urged the faster flyer. "I'm carrying the apology."

"Oh." "The President," added the swift pigeon as he passed onward, "has the problem in the hollow of his head."

Friend of ours, who manufactures brass fittings, journeyed to Washington to learn the score on brass futures. He was shunted from one department to another until he met a man who presumably had the final say-so on brass priorities.

"Sorry, I can't tell you anything, definitely," ducked the Brass Hat. "Our survey on brass mining hasn't been completed."

(Note to those who aren't intimate with brass: This useful metal isn't mined. It's an alloy of copper and zinc.)

Good friend of ours read that the U. S. Department of State had issued a pamphlet entitled "Our Foreign Policy."

He sent for a copy, received it, tried to read it, and gave up in dismay.

Pages of this State Department booklet on "foreign policy" were so mixed up (page 21 skipped to page 97, followed by pages 19-17, 43-56, 89-11, etc.) that he couldn't make head nor tail of them.

No comment.

Daffynition

Political economy: Two words that should be divorced on the grounds of incompatibility.

Quotes of the Week

"The essential quality of a free economy is that it cannot be planned. It leaves the solution of problems to the inspiration of the individuals in the untrammeled population. When something approaches a free economy has existed, it has always worked better than the schemes of any planners." —THOMAS H. BARBER.

"A Scottish planner perhaps summed it all up the other day when, at a meeting, he threw up his hands in despair and said: 'There is far too much work for far too few planners.'" —Economic Intelligence, National Chamber of Commerce.

Foreign Relations

"We have everything figured out," visitor from Argentina told "Dope" recently.

"All we have to do is declare war on the United States. You'll lick us easily. And then you'll support us forever afterward."

Smart Man!

Russian Gag

Marshal Stalin disguised himself and attended a movie incognito.

His picture was flashed on the (Concluded on Page 6, Column 1)



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ESA 'Profit-Formula' for Pricing Still Leaves Some Big Questions Unanswered

WASHINGTON, D. C.—Some clarification of the meaning of the "fair pricing standards" order issued by the Economic Stabilization Agency has been made in the past week, but there are still many questions to be answered.

A statement made by Michael DiSalle, price administrator, seemed to set forth principles that seemed to minimize the importance of freezing prices at the Dec. 1 level, in favor of the following formulas:

Manufacturers should set their prices to reflect the same net profit before taxes that they earned on comparable volume of like products and comparable productivity in the 1946-1949 period.

Retailers and wholesalers should add whatever margin they customarily added in the month of June, 1950, to the cost of the goods they buy for resale. This margin will be either in terms of dollars or percentage, depending on the individual firm's customary procedure.

DiSalle said that manufacturers should use their standard formulas for figuring prices, but maintain the same profit margin before taxes that was the average in the base period.

There are a lot of questions that still have to be answered. Retailers will require a definition of the term "gross margin" in relation to whether it referred to store-wide gross margin, the spread between cost and selling price of individual items or the price at which an article is offered to sell.

Information is also sought on that part of the order which restricts retailers to net dollar profits realized during the years from 1946 through 1949. Such a restriction could have a disastrous effect on a retailer whose volume recently has increased greatly over any average of the volume for the years in question.

More advice is also needed on that part of the standards which calls for maintenance of present prices for merchandise on which replacement costs have risen. In accordance with the fair trade laws in force in various states certain manufacturers of fair-traded merchandise have already notified stores handling their products that prices must be increased on goods already in their possession at former cost prices.

Crosley Cancels Boosts In Prices Since Dec. 1

DETROIT—One appliance manufacturer who has raised prices since Dec. 1 has rescinded price increases—temporarily at least—while another has announced that it does not consider its increases made since Dec. 1 to be in conflict with the ESA "fair pricing standards."

In a wire to Crosley distributors,

W. A. Blees, Crosley general sales manager, said that price increases on all products made since Dec. 1 have been rescinded, and that Crosley will hold the present price line "until we have had an opportunity to determine the effect which the so-called voluntary rollback order will have on our costs."

"If we obtain cooperation from all our suppliers and others in rolling back and holding prices to the Dec. 1 level, the price increases previously indicated to you may not become necessary. If, on the other hand, this is not done and our costs continue to rise, we will have no recourse but to adjust our prices accordingly."

Thor Corp., manufacturer of home laundry equipment, said that legal counsel had advised that increases made Dec. 15 do not conflict with the ESA standards.

Thor made parallel increases of \$15 on the suggested list price and the factory price. The company made the point that distributor prices to dealers are covered by the distributor portion of the ESA order and will have to be decided by each distributor individually.

Some Important Points Clarified by ESA

WASHINGTON, D. C.—The economic Stabilization Administration issued, Dec. 27, the first of a series of questions and answers on its "fair pricing standards order" but they failed to clear up many major points:

Here is the substance of some of the more important points covered:

How does a company tell if its net dollar profits have fallen below the base-period accounting period?

The company should rely on its earnings statement for the most recent accounting period.

What does the term "profitable" mean in the standard?

The standard says that in cases where a particular material or service is not profitable, the price may be increased to a profitable level, or by the amount of cost increases, whichever is lower. An increase cannot in any case exceed the increase in direct labor and material costs since the start of the Korean War. Even this amount may not be added to the price of a product if a lesser increase will make the product profitable.

How long must a manufacturer take a loss on a product before he adjusts prices?

Only so long as it is necessary to establish firmly that a loss is actually being incurred.

Do the "fair pricing standards" (Concluded on Back Page, Column 5)

General Air Conditioning Plans Distributor Setup

LOS ANGELES—W. H. Laband, president of General Air Conditioning Corp. here, has announced that his company has entered into a contract with Janney-Semple-Hill of Minneapolis for the latter to distribute the General line of refrigerators and range-refrigerator combination.

According to Laband, his company's line has always been sold direct to dealers. But the great success of the distributing experiment carried out by the Janney firm has, among other factors, prompted his (Concluded on Back Page, Column 1)

NARDA Meeting Plans 10 Panel Discussions

CHICAGO—More than a dozen talks and 10 panel discussions, covering a multitude of current retailer problems, will be presented during the 1951 annual convention of the National Appliance and Radio Dealers Association, according to the tentative program announced by the group.

The meeting will be held Jan. 14-17 at the Stevens hotel here. A service and equipment exhibition will be staged in conjunction with the convention.

Talks will cover such subjects as (Concluded on Page 4, Column 4)

Mfrs. To Show Complete Lines At Winter Marts

Firms Expected To Focus Effort on Popular Models, Keep Production High

CHICAGO—Despite problems in materials, manpower, pricing, and confusing government regulations, manufacturers of refrigerators, home freezers, room air conditioners, and major appliances will show pretty complete lines of merchandise at the American Furniture Mart and the Merchandise Mart during the annual mid-winter home furnishings markets opening here Jan. 8.

All manufacturers expect and want to do their duty as far as helping America's defense program. But they also feel that until such time as they are specifically limited in producing their normal line of civilian goods, they can serve all interests best by producing as much as they can.

While most manufacturers will show fairly broad lines, in terms of numbers of models, it is believed that allocations of merchandise to distributors will put a concentration on popular models.

Manufacturers are hoping that there will be some clarification of the price situation by the time that the markets open. While some manufacturers have already indicated their stand on price changes (see story on this page), others are awaiting further word from Washington.

With the situation being what it is, indications are that attendance at the Marts will be the highest since the rush immediately following the end of World War II.

NPA Hands Problems To Wholesaler Group

WASHINGTON, D. C.—A task group representing the appliance, radio, and television wholesalers will meet in the Palmer House, Chicago, on Jan. 9 to discuss three problems given them by the National Production Authority recently.

These three problems are:

1. Equitable distribution of scarce appliances by wholesalers.

2. Protection of the interests of wholesalers in case of possible "freeze" orders such as were issued during the last war.

3. Provisions for furnishing appliances to disaster areas.

The task group, headed by James H. Simon, of the Simon Distributing Corp., here, is composed of seven members of the radio, television, and household wholesale advisory committee to the NPA.

The group was formed on Dec. 20 during a meeting of the advisory committee with NPA officials. It promptly disposed of one problem given it for consideration by recommending that "all consideration of production of components or devices intended for receiving equipment to be used for color television reception be postponed until such time as materials and components shall be in (Concluded on Page 4, Column 1)

'Model Ordinance' Designed To Aid Local Water Saving

NEW YORK CITY—With some localities facing or already handicapped by water shortages, a "model ordinance" regulating the use of water by refrigeration and air conditioning systems has been prepared by the American Water Works Association.

This would require, among other things, that water conservation equipment be provided for systems above a certain size, with the recommendation that 5 or 5.5 tons be the dividing line, which "is the most generally accepted limit." Permits from the water utility would also be required for all water-using refrigeration or air conditioning equipment.

The particular suggestions, as well as the whole ordinance, however, are not presented or recommended "as proper for general adoption," emphasizes the report of the AWWA committee which drafted it.

Serving on the committee were Frank C. Amsbury, Jr., as chairman and Elwood L. Bean, Logan L. Lewis, and Marsden C. Smith.

"The conditions and circumstances of the individual utility, its finances, methods of procedure, and adequacy of personnel, all vary greatly," the committee points out. "Likewise, the necessity or desirability of control, its purpose and urgency, and complications encountered are variables. Legal controls and verbiage are also variables, since no language is universal.

"The best solution for the individual community should be worked (Concluded on Page 17, Column 1)

65% Cut In Copper Being Considered

WASHINGTON, D. C.—A plan that might cut civilian use of copper by 65% by March 1 is now under advisement by the National Production Authority.

According to reliable sources here, the NPA plan would cut civilian supplies 20% in January and 40 or 45% in February. There would also be a specific ban on the production of some 200 copper-containing products.

It is said that plumbing supplies and parts for radio and television and autos as well as copper decorations are among the articles that will be banned.

Predictions are also made that a similar plan will be ordered into effect on aluminum, zinc, and other scarce nonferrous metals.

(Concluded on Page 4, Column 1)

Sayre Is General Mgr. Of Avco's Bendix Div.

PITTSBURGH—American Radiator & Standard Sanitary Corp., manufacturer of heating and plumbing products, has added a comfort cooling unit to its line.

The new unit will be exhibited at the International Heating & Ventilating Exposition in Philadelphia Jan. 22-26, and at the National Association of Home Builders' Exposition in Chicago Jan. 21-25.

The cooling unit will be teamed with a regular winter air conditioner and connected to its ducts. In this way, the unit will provide comfort with mechanically cooled and dehumidified air, the company said.

The cooling unit is hermetically sealed and tested at the factory. In (Concluded on Back Page, Column 1)

NEW YORK CITY—Bendix Home Appliances, Inc., following stockholders' approval of selling the assets and business of Bendix to Avco Mfg. Corp. in exchange for Avco stock, has been made into a separate division of Avco, Victor Emanuel, chairman of the Avco board, announced recently.

Emanuel also announced that Johnson S. Sayre will continue to head Bendix as its general manager, while Hector J. Dowd, formerly chairman of the Bendix board, has been elected a vice president of Avco.

Bendix will maintain its independence of operation and distribution under the new setup. Its line of automatic home laundry equipment will be supplemented with other major appliances as soon as conditions warrant, Emanuel declared.

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At Last! "Stories of the Week" In Handy Form

In response to hundreds of requests from AIR CONDITIONING & REFRIGERATION NEWS subscribers, the conductor of its "Inside Dope" column has collected and grouped his best "Stories of the Week." They are now available in convenient book-form for your reading and working pleasure. The book is entitled: "You'll Love This One."

Everyone will enjoy reading this book, we hope, but for the salesman—and for anyone who may be called upon to "say a few words" at a meeting—it should have especial appeal.

Here's why: this book of good stories you can tell is printed on thin paper, bound in flexible leatherette, and designed to fit neatly into your inside coat pocket.

While waiting in an ante-room to see Mr. Bigdome, the sales representative can thumb through it and pick out four or five pertinent jokes which are guaranteed to put his prospect in a good mood.

The man about to make a speech—or one who figures he may be asked to rise and shine extemporaneously—can consult it surreptitiously while the toastmaster is doing his stuff. Although it's jampacked with grand tales, it isn't bulky. Rather, it's unobtrusive. Looks more like a leather wallet than a book.

You can be the life of the party if you've memorized some of the anecdotes in this book. Everybody loves a good story well told—and all the jokes in this book have been tested on tough audiences, both large and intimate, by the author.

Within its 236 thin-paper pages more than 200 sure-fire laughs are presented. You can use it profitably, and so can your friends. It's handsomely turned out, and will make an appreciated Christmas present.

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What One Freezer Manufacturer Is Doing To Key His 1951 Product Plans To the Present Crisis

DEERFIELD, Mich.—The freezer manufacturer who can solve the problems of constantly rising sales costs and government restrictions on materials and production the fastest is the one who is going to have the competitive advantage, J. H. Overmyer, general sales manager of Revco, Inc., declared recently.

Overmyer, who directs the sales of Revco's Chill Chest freezers, did not claim to have the solution to these problems, but he did know what steps Revco was going to take this year to meet them.

NEW LINE AT MART

Overmyer revealed that Revco plans to introduce its 1951 line of home freezers at the January market in Chicago. He indicated that the new line would consist of the same three models as in the present line with a few improvements added.

Biggest improvements are a new type latch and an engineering improvement which will increase the efficiency of the freezing compartment, he said.

Revco makes 8, 15, and 23-cu. ft. freezers. It formerly made a line of low-temperature commercial cabinets but has dropped that line to concentrate on the home freezer market.

The home freezer business has been good for Revco in the past year. Its sales of Chill Chest freezers doubled over 1949 while its contract manufacturing business increased substantially. An expansion program carried on throughout the year has doubled previous production facilities and quadrupled the production capacity of the plant.

Revco now employs about 300 persons and during the past year has operated two and three shifts for the first time in its history.

The plant expansion program has added a steel warehouse, an engineering building containing experimental laboratories, a new materials warehouse, and a new paint and Bonderizing building that, when completed, will contain the most modern equipment for this work in the industry, according to Kenneth O. Schultz, central district representative for the firm.

Howard D. White, chief engineer, said that the company has already worked out an extensive alternate materials program to maintain production on the new models this year. He said that the alternates have been selected so that the efficiency of the freezer will not be diminished in any way.

DEALERS CHOOSE BEST MODEL

Another step that the firm has taken in anticipation of government controls restricting production is to poll its dealers to find the most popular model. Dealers have voted the 15-cu. ft. freezer the one they would prefer to have if the company is forced to cut down on the number of models it produces.

In view of this, Overmyer explained, the company has built its advertising and promotional plans for this year around the 15-cu. ft. freezer. All models, naturally, will be advertised, but the bulk of effort will go on the 15-cu. ft. unit.

Consumer advertising will be concentrated in newspapers and radio at the local level rather than in national magazines.

"We want to be able to have our consumer advertising keep pace with our production," Overmyer stated. "We have been on allocation for the past six months and it looks as though we are going to continue to be on allocation. So we want to concentrate our advertising in the areas and at the times that our merchandise will be available there."

Theme for the consumer advertising program is "Family Preference Everywhere."

WANTS FEW GOOD DEALERS

In its trade advertising, Revco plans to shoot for the independent appliance dealer, Overmyer declared. He said that the firm has come to the conclusion that it is better to have a few good dealers than a large number of mediocre ones.

"You can spend 80% of your time trying to help dealers who do only about 10 to 15% of your business," he asserted. "We have gradually been dropping poor dealers and going after a few good ones in each territory."

Once good dealers have been obtained, Revco plans to hold their loyalty by providing them with bulletins and literature on the current sales and production situation so that they will be adequately informed at all times, Schultz commented.

'W.' TAX EFFECTS

Turning to the current sales situation, Schultz declared that Chill Chest freezer dealers have apparently not suffered any noticeable loss of sales due to government credit regulations or from the freezer excise tax.

"Of course, there was a psychological lag for a couple of weeks when the controls and tax were first imposed," he said. "Some customers who would have bought at that time bought sooner to beat the tax."

"Those that missed the deadline naturally did not want to be laughed at for paying a higher price for the same freezer they could have had at a lower price the week before. Therefore, they held off their purchase for a couple of weeks."

"But, our receipts of warranty cards tell us that freezers are still being sold as fast as we can produce them. A surprising number of sales are still for cash or for payment within 30 days."

"As for television competition, most of our dealers are in smaller towns or rural areas that are on the fringe of television reception, where reception is naturally erratic and customer complaints are frequent."

"It is no trick at all to point out to such a dealer that the profit he makes on a home freezer is considerably more than on a television set

selling at the same price and he has much less service trouble with it."

"Our dealers who have gone in for television are rapidly finding that out and are gradually switching their back to home freezers."

Overmyer expressed the opinion that the home freezer industry will be considered much more vital to national defense in the days ahead than it was during World War II.

He said that efforts are being made to convince the government to consider the farm freezer as a farm production tool. The argument is proffered that raising his own food is to no avail if the farmer has no place in which to preserve it.

Another benefit of home freezers is that in case of attack upon our cities and the interruption of normal distribution services, the home freezer will enable suburban and rural families to have an assured food supply for several days and even enable them to care for refugees.

Promotion-Conscious Latin Americans Push Frozen Food Cabinets

PHILADELPHIA—Jordon Refrigerator Co., Inc., here, has received samples of newspaper advertising being done by its distributor in Guayaquil, Ecuador, which give evidence that North Americans are not the only promotion-conscious people in the world.

Two of the advertisements plugged a wide variety of refrigeration equipment. Commented Alfred Levin, Jordon advertising manager:

"It is most interesting to note that a great deal of emphasis is put on modern two-temperature refrigerators and storage freezers, which would indicate that the frozen food industry has grabbed a firm foothold down there. Also, the similar emphasis put on display cases indicates that the South American merchant is just as merchandising-conscious as we are here in this country."

A third advertisement announced presentation of a radio theatrical production. In addition to newspaper and radio advertising, the distributor also conducts a widespread outdoor advertising program.

Cooling Old Buildings

It's Expensive (\$3 per Sq. Ft.) And Raises Space Limitation Problems

NEW YORK CITY—"Air conditioning a large existing building is a very expensive proposition running into vast sums of money," declared Walter L. Fleisher, veteran consulting engineer, before the annual meeting of the American Society of Refrigerating Engineers.

"People have come to the conclusion that they must have cooling in the summer just as they have heating in the winter. That idea is ridiculous because we're so constituted that we can cope with heat much better than with cold," he also asserted.

What Fleisher is apparently driving at is that comfort cooling does not warrant "extravagant expenditures."

Tracing the development of modern air conditioning, he indicated that one of the problems in designing an air conditioning installation was to determine what conditions would be desirable.

"Over a long period of years, the American Society of Heating & Ventilating Engineers has developed the 'comfort chart' with the concept of 'effective temperature.' A great number of people may be comfortable at one effective temperature, but many others may not be under the same conditions."

"In the early days of comfort conditioning in theaters 78° dry bulb with 50% relative humidity was the standard. Eventually this was changed to 80° or 82° with 50% r.h. because the cost was much less. But later," Fleisher declared, "we realized that people were not comfortable at 80°. The temperature must be lower."

"Also, in the early days of ventilation, the medical profession was inconsistent that the carbon dioxide content be kept down to .004%. This meant a requirement of 32 c.f.m. of outdoor air per person, which was too expensive for air conditioning. Around 1925 both Carrier and myself arbitrarily reduced this to 10 c.f.m. per person, which had much to do with the growth of comfort conditioning."

"But the amount of outside air is still a moot question. One of the greatest criticisms today," Fleisher said, "is that there is so little outside air being introduced because of the cost that odor has become a problem."

In laying out a system for an existing building, it should be remembered that the cost of installation now runs about \$3 per sq. ft., he pointed out.

"With an existing building the possibilities of placing cooling or basic units is very much limited," he also declared.

The speaker took exception, too, to some of the claims advanced for high velocity systems, pointing that "in a large building you never know whether most of the occupants will want heating or cooling, but only one or the other can be supplied."

"High velocity air is not a new

**2 Detroit ASRE Speakers To
Discuss Water Conservation**

DETROIT—"Water Conservation" will be discussed before the Detroit ASRE section at its regular meeting to be held at 8 p.m. Monday, Jan. 8, at the Rackham building by two speakers—J. C. Rehard, chief safety engineer of Detroit, who will outline the need, and Hugh Scullen, consulting engineer, who will describe methods of achieving water conservation.

Special guests will be members of the Refrigeration Contractors Association of Detroit.

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Announce Details of Educational Parley in Dallas Jan. 26-28

WASHINGTON, D. C.—The third refrigeration and Air Conditioning Educational Conference in a series of four sectional shows will be held in the Agricultural building of the State Fair Grounds in Dallas, on Jan. 26-27-28, it has been announced by F. G. Coggan of the Refrigeration Equipment Manufacturers Association, general chairman.

The three-day conference is being sponsored by the Refrigeration Equipment Manufacturers Association and the Refrigeration Service Engineers Society. The Refrigeration Equipment Wholesalers Association and the Refrigeration and Air Conditioning Contractors Association are cooperating in the promotion of the conference.

The conference is open to the entire industry and service engineers, wholesalers, contractors, and refrigeration engineers are urged to attend.

From 50 to 75 of the leading firms in the industry will furnish educational displays. Exhibits will be open during the following hours:

Jan. 26—1 to 5 and 7 to 10 p.m.
Jan. 27—10 a.m. to 5 p.m.
Jan. 28—12 noon to 4 p.m.

In addition to the educational exhibits the conference will include a program of experts. The speaking program is as follows:

FRIDAY, JAN. 26: "Information Please"—questions from the audience answered by a board of experts; "Safety for the Refrigeration Service Engineer"—George J. Schuld, Sr., International safety director, Refrigeration Service Engineers Society; "Removing Moisture from Refrigerating Systems in the Field"—F. Y. Carter, chief sales engineer, Detroit Lubricator Co.

SATURDAY, JAN. 27: "Information Please"; "Methods of Defrosting Commercial Refrigerating Equipment"—R. H. Luscombe, sales manager, Penn Electric Switch Co.; "New Types of Problems Involved in Open Self-Service Refrigeration Equipment"—John H. Spence, chairman, International Educational and Examining Board, RSES, and service manager, Hussmann Refrigeration, Inc.

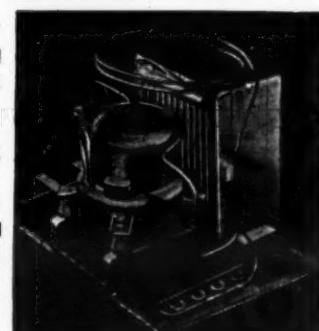
SUNDAY, JAN. 28: "Information Please"; "Approved by Underwriters"—A. J. Bommer, Underwriters' Laboratories, Inc.; "The New B9-1 National Safety Code for Mechanical Refrigeration"—Cyrus W. Miller, executive secretary, Refrigeration Industry Safety Advisory Committee.

Following is a partial list of exhibitors:

A. P. Controls Corp. (Automatic Products); Airserco Mfg. Co., Inc.; Alco Valve Co.; Amino Refrigeration Products Co.; Ansul Chemical Co.; Brunner Mfg. Co.; Bush Mfg. Co.; Copeland Refrigeration Corp.;

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Marsh Corp., Jas. P.; Mitchell Mfg. Co.; Mueller Brass Co.; McIntire Connector Co.; Nash-Kelvinator Corp.; Pacific Lumber Co.; Penn Electric Switch Co.; Phillips & Co., H. A.; Ranco Inc.; Remco, Inc.

Servel, Inc.; Sporan Valve Co.; Standard Refrigeration Co.; Superior Valve & Fittings Co.; Swift Mfg. Co., Inc.; Tecumseh Products Co.; Typhoon Air Conditioning Co., Inc.; United Friguator Engineers.

Virginia Smelting Co.; Wabash Mfg. Co.; Wagner Electric Corp.; White-Rodgers Electric Co.; Wolverine Tube Div. of Calumet & Hecla Consolidated Copper Co.

55-Year-Old Gas Range Displayed with New Models Stresses Improvements

DETROIT — A 55-year-old gas range displayed in the front window of the Reliable Furniture Co. here proved to be a "real traffic stopper," an official of the dealership declared recently.

Druggist Aims To Save Three Ways with Big All-Purpose Walk-In

AURORA, Colo.—By concentrating all his refrigeration needs at one spot by means of a large walk-in box, Bert Howard, well-known local druggist, hopes to save time and space and reduce maintenance expense in his new \$20,000 store located here.

The new walk-in refrigerator, an 8 by 5 model located at the left rear of his store, will combine the functions of a biological refrigerator, soda fountain storage unit, and separate storage case for chilled beer and soft drinks.

With an overhead dome cooler, the box is refrigerated by a 1½-hp. condensing unit, and can maintain temperatures anywhere from 35 to 50° as desired, with 38° normally used for most cooling jobs.

All penicillin, insulin, aureomycin, and other cold-requiring drugs are now kept there, as well as fountain dairy products, vegetable items, and other perishables.

Temperature, Moisture, Germs Due for Control In New Penicillin Plant

CHICAGO—Thirteen full-color, minute-long picture advertising playlets and black and white television shorts of both 20-second and one-minute duration are now being made available to International Harvester refrigeration dealers, the company has announced.

The films, some of which cover the company's new line of refrigerators, and others, the new line of freezers, are supplied to dealers by International Harvester at no charge as a merchandising service. They are available available in 16 or 35-mm. sizes.

The company pays the production costs of the playlets. Dealers may share the cost of showing with the company.

The action in all but one of the films takes place in family kitchens. One is produced in the form of a fashion show.

The opening and closing of each minute movie and the closing of the television shorts are devoted to the dealer's name and address.

The plant is located in the industrial zone of West Chester, Pa., and is being constructed by the Turner Construction Co. at a cost of \$1,500,000. The one-story building is expected to be ready for occupancy by July, 1951. Approximately 350 persons will be employed in the laboratories.

In addition to producing the various dosage forms of penicillin, the new building will house the Wyeth antibiotic control and development research laboratories.

THERMO EXPANSION VALVES				
TYPE TK "3 valves in 1"	TYPE TCL	TYPE TR Multi-Outlet	TYPE 402 with pressure limiting feature	THERMO-LIMIT with pressure limiting feature
SOLENOID VALVES				
TYPE S1	TYPE M3	TYPE R2		
FLOAT VALVES AND SWITCHES				
TYPE HK high pressure float valve Up to 5 tons "Freon-12", 10 tons Methyl Chloride and 20 tons Ammonia.	TYPE JS electric float switch For "Freon", Methyl Chloride, Ammonia and other non-corrosive liquids having a specific gravity of .6 or more. Up to 460 volts AC and 250 volts DC.	For all types of service. For liquid: "Freon"—up to 75 tons. Methyl Chloride—up to 150 tons. For suction: "Freon"—up to 8.8 tons. Methyl Chloride—up to 17 tons. For brine, water, gas, air and steam.		
AMMONIA CONTROLS				
TYPE TG	TYPE M91F	TYPE UGZ	TYPE E with Strainer	
SUCTION LINE CONTROLS				
TYPE EPR13 For all refrigerants, with connection sizes up to 6".	TYPE 732 SNAP-ACTION SUCTION VALVE Temperature operated—½ ton, "Freon-12"—1 ton, Methyl Chloride.	TYPE 760 "EVAPOTROL" Pressure regulator—½ ton, "Freon-12"—1 ton, Methyl Chloride.		

**ALCO
VALVES**

**the COMPLETE LINE
of refrigerant
controls**

For capacities in excess of those listed, write us for further details and give specific requirements.



ALCO VALVE CO.

853 KINGSLAND AVE. • ST. LOUIS 5, MO.

Wholesaler Problems--

(Concluded from Page 1, Column 5) safe adequate supply to meet the requirements of the present emergency."

NPA officials assured the advisory committee that it was their aim to provide first for defense needs, second for maintenance and repair of appliances now in consumers' hands, and third for the equitable distribution of new appliances.

These officials also said that an order affecting the use of copper in the manufacture of household appliances is now being prepared.

The wholesalers informed the NPA that shortages have already developed in some lines. The most serious shortages at present are radio and television tubes, electric

irons, and gas and electric ranges.

Members of the committee expressed concern over the possibility that manufacturers might tend to concentrate their future production in high priced lines, eliminating many of the low-cost appliances which form the bulk of retail sales.

Besides Simon, the task group includes Benjamin Gross of Gross Distributors, Inc., New York City; Lealis L. Hale, Hale & McNeil, Monroe, La.; George N. Tobias, Radio Distributing Co., Detroit; Harry Williamson, Williamson & Davis Co., Washington, D. C.; Sam Rosenthal, Hyland Electric Co., Chicago; and W. G. Peirce, Peirce-Phelps, Inc., Philadelphia.

In addition to these men, advisory committee members at the initial meeting were:

Harry Alter, The Harry Alter Co.,

Inc., Chicago; Marvin N. Bray, Gen. Appliance Storage Co., Inc., Alexandria, Va.; R. J. Brown, General Electric Supply Corp., Bridgeport, Conn.; K. G. Gillespie, Jenkins Music Co., wholesale division, Kansas City, Mo.; J. R. Straus, Straus-Frank Co., San Antonio, Tex.; A. K. Sutton, A. K. Sutton, Inc., Charlotte, N. C.; Adolf Ullman, Northwestern Distributors, Inc., Boston; John Urban, Westinghouse Electric Supply Co., New York City; John Bohning, George Worthington Co., Cleveland; and Titus B. Schmid, Crescent Electric Co., Dubuque, Iowa.

Sellers' Appliance Files Name

BUFFALO—A business name has been filed in the Erie county clerk's office for Sellers' Auto & Appliance Store, 1121 Broadway, here.

Your selling job, Mr. Wholesaler, is made easier when you handle Wolverine copper refrigeration tubing.

WOLVERINE TUBE plus its DISTINCTIVE CARTON has Scores of Features:

- uniform
- clean and dry
- easy to bend
- has sealed ends
- easy to display
- easy to reshelf
- always protected
- wide range of sizes
- easy to merchandise and sell
- easy to stock and inventory
- contents legibly identified
- individually cartoned in 50-ft. coils
- quality-controlled from ore to finished product

WOLVERINE TUBE DIVISION
Calumet & Hecla Consolidated Copper Co.
INCORPORATED
Manufacturers of Seamless, Non-Ferrous Tubing
1413 CENTRAL AVE. • DETROIT 9, MICH.
Plants at Detroit, Mich. and Decatur, Ala.

Wolverine Mill Depots:
DETROIT, MICH. • DECATUR, ALA. • HOUSTON, TEXAS • LOS ANGELES, CALIF.
LONG ISLAND CITY, N.Y. • PHILADELPHIA, PA. • PROVIDENCE, R.I. • ST. LOUIS, MO.

Sales Offices in Principal Cities

Program for NARDA Convention--

(Concluded from Page 1, Column 3)

television, credit controls, dealer relations, the world crisis, and sales training. Topics to be considered in panel discussions include finance, group insurance, successful promotions, supplier-dealer relationships, records and controls, servicing, franchises, demonstrations, low saturation products, and television problems.

The tentative program follows:

SUNDAY, JAN. 14

10 a.m.—Board of directors meeting.

7 p.m.—NARDA reception.

8:30 p.m.—Opening of NARDA Service & Equipment Exhibition.

MONDAY, JAN. 15

7:30 a.m.—Breakfast. President's report, election of board.

9 a.m.—Opening of convention. "Our Strength Will Be Tested," President James Lee Pryor, Wilmington, Del.

9:15 a.m.—"The Dealer's Future In Television," Joe Elliott, vice president in charge of sales, RCA.

10 a.m.—"Credit Controls and Your Business," William J. Cheyney, executive director, Retail Credit Institute of America, Inc.

10:45 a.m.—"The Importance of Good Dealer Relations in 1951," H. L. "Red" Clary, vice president, Norge Div., Borg-Warner Corp.

11:30 a.m.—Morning recess (Service & Equipment Show).

12:30 p.m.—Luncheon. "The World Crisis and What Lies Ahead" (by a member of Congress).

2:30 p.m.—Panel: "Finance—Your Business." W. Y. Rahn, vice president, Commercial Credit Corp.; C. R. Brogan, Refrigeration Discount Corp.; Harry B. Price, Jr., Price's, Inc., Norfolk, Va.

3:30 p.m.—"How Important Is Group Insurance," Charles B. Diman, John Hancock Co., Boston, Mass.; Francis L. Monette, Beaudry & Monette, Lowell, Mass.

4 p.m.—"My Most Successful Promotion—In Net Profit," R. A. Snook, Charlotte, N. C.; Bud Getschal, Getschal & Richard, Inc., New York City; and another dealer to be named.

5 p.m.—Afternoon recess (Service & Equipment Show open until 10 p.m.).

TUESDAY, JAN. 16

7:30 a.m.—Breakfast. "Local Unity Leads to National Strength," Karl Daubert, Louisville, Ky.; Larry Olson, Moline, Ill.; Clarence Eode, Milwaukee, Wis.

9 a.m.—Panel: "Three Vital Problems in Supplier-Dealer Relationships," Ward Shafer, vice president, general manager, The Coolerator Co.; W. G. Pierce, Jr., Pierce-Phelps, Inc., Philadelphia; and a dealer to be named.

10 a.m.—Panel: "Profitable Operations Begin With Good Records and Controls," Bernard Greene, Samson Enterprises, Inc., Milwaukee, and two other dealers will discuss accounting systems; service record procedures; sales, credits, and collections.

10:45 a.m.—Panel: "Profitable Handling of Servicing—A Must." Three dealers to be named.

11:30 a.m.—Morning recess (Service & Equipment Show).

12:30 p.m.—Luncheon. "Al Robertson Sounds Off," Al Robertson, Oklahoma City.

2 p.m.—Panel: "Franchises Must Mean Something—Both Ways," M. R. "Bob" Wilson, general sales manager, Thor Corp.; C. J. Coward, merchandising manager, Kelvinator Div., Nash-Kelvinator Corp.; Harold Samson, Samson Enterprises, Inc., Milwaukee.

3 p.m.—Panel: "Live Demonstrations—Real Volume Builders," Julius Klein, vice president, Caloric Stove Corp.; Walter Daily, general sales manager, Lewyt Co.; Jack Westley, Northern Supply Co., Milwaukee.

4:30 p.m.—Panel: "There's Big Money in Low Saturation Products," Dodge Barnum, president, Domestic Sewing Machine Co.; C. H. Rippe, Jr., sales director, Home Appliance Div., Hamilton Mfg. Co.; Ralph Cameron, Marketing Department, Hotpoint, Inc.; John Oster, Jr., executive vice president, John Oster Mfg. Co.

5:30 p.m.—Afternoon recess.

6:30 p.m.—Cocktail party and annual banquet with music and entertainment.

WEDNESDAY, JAN. 17

7:30 a.m.—Breakfast. "How To Use NARDA Profitably."

9:30 a.m.—"The Gas Industry Will Promote in 1951," American Gas Association.

10:15 a.m.—"Sales Training—An Investment That Really Pays Off," B. Franklin Bills, NARDA sales training consultant, B. Franklin Bills & Associates.

10:45 a.m.—"The Electric Industry Will Promote in 1951," Edison Electric Institute.

11:30 a.m.—Morning recess (Service & Equipment Show).

12:30 p.m.—Luncheon, "A Reporter's Advice to Retailers," Earl Lifshay, managing editor, *Retailing Daily*.

2:30 p.m.—"CTI—How It Works," Theodore A. Simmons, Hartford, Conn., originator of Certified Television Installations.

3 p.m.—Panel: "Your Television Problems in 1951," Chairman, Mort Farr, Upper Darby, Pa.; Frank Perloff, Frost Stores, New York City; Henry Paiste, vice president, Philco Corp.; H. C. Bonfig, vice president Zenith Radio Corp.; Harry Ehle, International Resistance Corp.

5 p.m.—Service & Equipment Show (Closes officially at 10 p.m.).

Lewyt Sets Up Quotas, Plans Output Boost

BROOKLYN, N. Y.—Lewyt Corp. has announced that it will begin allocating its vacuum cleaners on Jan. 1 and that production in the first quarter of 1951 will be increased 50% over the like 1950 period.

Walter J. Daily, manager of the company, told a district manager's meeting that the quota policy has been adopted to insure that each distributor gets an equitable share of 1951 output.

He said development of satisfactory substitutes for restricted raw materials such as aluminum will enable Lewyt to effect the production increase.

At the same time, Daily reported that the company's 1950 unit and dollar volume will exceed 1949 by 100%. He attributed this gain to the public acceptance of Lewyt's cleaner developed through consistent advertising.

The company recently increased the retail list price of its cleaner from \$79.95 to \$89.95, the first boost since Lewyt began production of the appliance three years ago. No further price advance is contemplated, according to Daily.

for more
ice maker SALES
... FILTRINE
"Taste - Master"
Deminerilizer
in the water line

Cuts Service
No Tastes
Clear Ice
Fits All Makes
Small Cost

Crystal ice . . . without sludge-forming rust, sediment, mineral residue . . . chlorine taste . . . "milky" taste . . .
Ends major source of service calls. Write for new literature.

Filtrine

"Water Coolers and Filters for 40 Years"

FILTRINE MANUFACTURING CO.
BROOKLYN 5, N. Y.

"KNOW HOW"
MAKE CTI GRADUATES THE MEN FOR THE BETTER JOBS
PRACTICAL SHOP TRAINING IN
AIR CONDITIONING—REFRIGERATION
FROZEN FOODS LOCKERS
ELECTRICITY MAJOR APPLIANCES
SERVICE, MAINTENANCE & INSTALLATION
Use CTI Placement Service or write for Enrollment Details

COMMERCIAL TRADES INSTITUTE
200 SOUTH 20TH ST., BIRMINGHAM, ALA.

MEMBER:
Southern Association of Private Trade Schools
An approved school to TRAIN Veterans
and Non-Veterans
Training in the heart of the South . . .

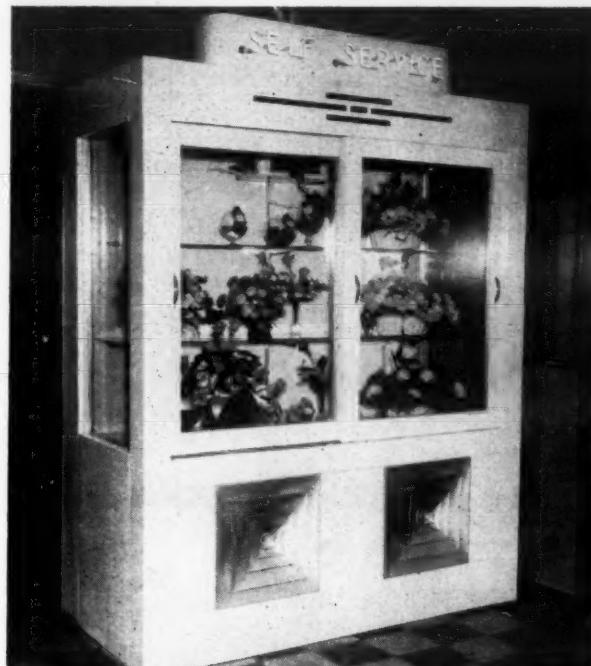
keep cool!

Ranco has 8 models for WATER COOLER REPLACEMENTS!

Don't worry about finding the right replacement for Water Coolers. And don't hunt all over town. Just ask your Ranco wholesaler to show you the eight Ranco precision-built models specially designed for replacement installations.

REPLACE IT RIGHT WITH RANCO

Ranco Inc.
COLUMBUS 1, OHIO



HANDY CABINET in St. Luke's hospital is kept filled with flowers so that visitors can select gifts for patients at any hour.

Hospital Uses Self-Serve Floral Box

DENVER—A "self-service" florist refrigerator that permits visitors to the St. Luke's hospital to select flowers for patients just prior to visiting hours is making quite a hit here.

The big box, custom-built for the hospital, is 8 ft. by 6 ft. by 2 ft. with two sliding glass doors permitting access to four levels of glass shelving within. A 1/2-hp. compressor keeps the interior at an even 40°, the temperature being indicated by a thermometer set in the center of the display.

On the shelves of the refrigerator are anything from a single yellow rose at \$1 to handsome assortments

of flowers in baskets.

To make a selection all a visitor need do is simply slide open the door, pick out the price-tagged flowers which appeal to him, and pay the cashier.

On duty 24 hours per day, the big display refrigerator makes it unnecessary for friends and relatives to make an extra stop over for flower purchases before reaching the hospital. Also, it means that floral gifts can be provided for patients at any hour of the day or night. The management of St. Luke's hospital feels that the refrigerator will pay for itself in a matter of a couple years.

Allan L. Cody, Houston Representative, Dies

HOUSTON, Tex.—Allan L. Cody, widely known manufacturers representative here, died suddenly Dec. 23, apparently of a cerebral hemorrhage. Long active in the refrigeration and air conditioning industry, he was associated with his father in the William H. Cody & Co. which headquartered in Dallas and represented a number of refrigeration manufacturers.

Reserve Board Stands Firm on Trade-In Rule

DETROIT—Trade-ins cannot be accepted as down payments on new appliances subject to Regulation W, appliance dealers were warned recently following circulation of reports that some were trying to set up promotional programs along this line.

The instalment credit regulation provides that the amount given by the dealer for the trade-in must be deducted from the cash price of the listed appliance being sold and the 25% down payment computed on the balance.

For instance, if a dealer offered \$50 trade-in value on a used refrigerator toward the purchase of a new refrigerator selling for \$300, he must deduct the \$50 from the \$300 and then get 25% of the remaining \$250—\$62.50—as the down payment, it was explained.

This formula applies whether or not the listed appliance being sold is new or used.

A Federal Reserve Board official pointed out that any efforts by the dealer to contravene these provisions—such as buying the used appliance outright with no strings attached and then later accepting this money back as part of the down payment on a new unit—are also illegal.

FIFTEEN YEARS

in the Industry. Management level and accounting background with Service Contractor, Appliance Dealer and Commercial Sales Distributor. Family man and willing to move anywhere for a good opportunity. Excellent record and industry references.

Box 3641, Air Conditioning & Refrigeration News



PICKING WINNER in finals of frozen pie contest proved a valuable promotion for the home freezer. Shown here with contest judges are frozen food faculty members of Institute at Alfred U., representatives of Harvester, and representatives of Ceases Commissary.

STANDING are C. S. Mitchell, I-H refrigeration sales manager; John Lawton, frozen food manager of Ceases Commissary; Joseph Pellegrino, frozen food instructor; and George Robinson, of the institute.

SEATED are Dr. J. E. Nicholas, Penn State; Mrs. Anna Willman, Cornell; Dr. Jean Simpson, Syracuse; and Grace Bennett, Penn State.

Harvester Dealers' Pie Contest Promotes Freezers

ALFRED, N. Y.—A frozen foods and freezer exhibit sponsored by the frozen foods divisions of the New York State Agricultural and Technical Institute at Alfred university here was a highlight of the school's recent fall festival.

Steinhurst, Hotpoint, Coldspot, DeLaval, Orley, Kelvinator, and International Harvester freezers were displayed at the frozen foods exhibit.

Highlight of this portion of the festival was a frozen apple pie contest sponsored jointly by International Harvester dealers of western New York, eastern Ohio, and northeastern Pennsylvania, and Ceases Commissary, Inc. of Dunkirk, N. Y.

The contest was open to young men and women under 21 years of age. First prize was the choice of either a \$250 scholarship or a model 111 Harvester home freezer.

Forty IH dealers each sponsored a preliminary contest which drew an average of 25 pies per contest. From these, the finalists were selected for the baking and judging.

The pies, stored at the local dealers', were brought to Alfred, baked at a uniform temperature for a uniform period of time and then judged.

Winning pie was made by a 16-year-old boy from Wilson, N. Y., who was the only male finalist. He said the winning pie was the second apple pie he had ever baked in his life. The first won the local contest. For his prize, he selected the freezer.

Other exhibits in the frozen food area included charts prepared by frozen foods division students to show the equipment used in processing of peas; student analyses of meats, fruits, and vegetables to demonstrate the techniques of con-

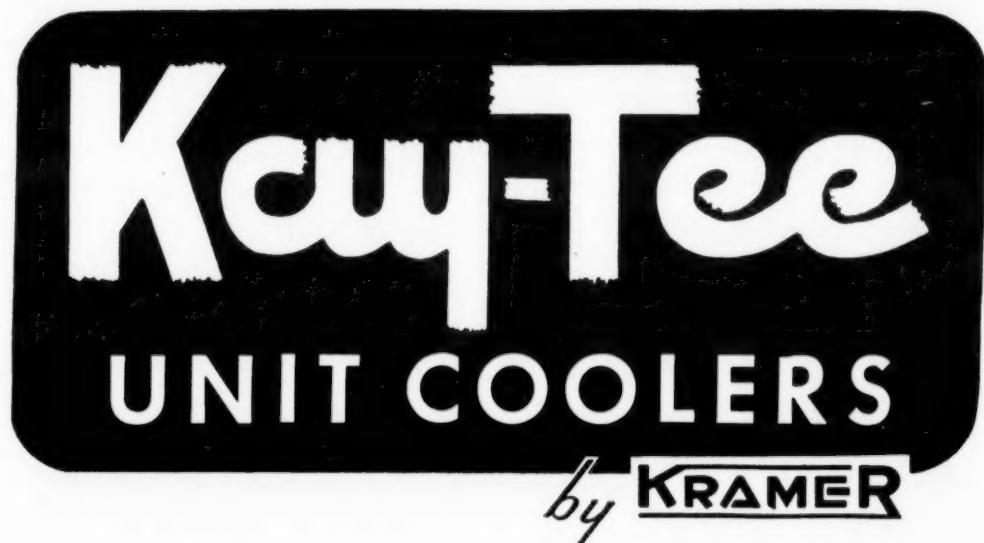
trolling the quality of foods during processing; a model vegetable garden to demonstrate techniques in growing varieties of vegetables for freezing; processing demonstrations; and samples of the various types of paper and packaging materials used in home freezing.

UsAirco Names Colombia Agent

MINNEAPOLIS—Jose Salvat & Co., Ltda., of Barranquilla, Colombia, has been appointed by the United States Air Conditioning Corp., as its exclusive representative and distributor in that area, it was announced by R. A. Villares, export manager.

One of the largest companies in its field in Colombia, Jose Salvat will handle the entire UsAirco line of air conditioning, refrigeration, heating, and ventilating equipment.

MORE FOR LESS!



OFFER MORE BTU'S FOR LESS MONEY.

These savings are the results of extensive engineering and the development of a newly patented KRAMER coil construction (Pat. No. 2,462,511). The traditionally high standards of KRAMER quality are maintained.

GUARANTEED RATINGS are based on tests made in accordance with accepted standards.

BUILT-IN HEAT EXCHANGERS are an integral part of all units.

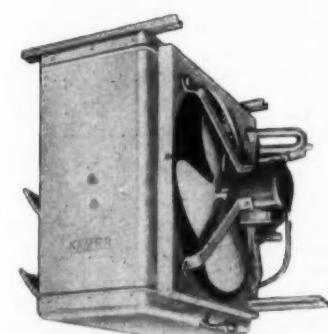
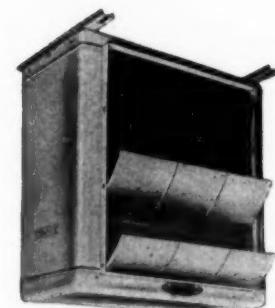
FEELER BULB LOOP extending outside the case, facilitates easy mounting of the feeler bulb between the coil and heat exchanger.

NO RUSTING with all aluminum cases.

DIE STAMPED handsome cases.

TWO ADJUSTABLE LOUVERS permit diffusion of the air stream.

STANDARD EXPANSION VALVES can be used. Units are designed for normal pressure drop, external equalizers are not required.



Write for Bulletin KT180

KRAMER TRENTON CO. Trenton 5, N. J.

THERMOBANK-COOLMASTER-RADIAL UNITS-PANEL UNITS-CUBERS-FINNED COILS-BARE TUBE COILS-HEAT INTERCHANGERS-CONDENSERS Air Cooled, Water Cooled, Evaporative-WATER COOLING EVAPORATORS-BLAST COOLING COILS-BLAST HEATING COILS.

INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)
screen. Everybody applauded wildly. Quietly he sat there and enjoyed the acclaim.

Fellow in the next seat nudged him and hissed into his ear:

"Clap your hands! Whistle! You want us all to get shot on account of you?"

Iron Curtain Story

A Russian named Kish was sent on a business trip to various countries. A short time after his departure his office received a telegram, sent from Bucharest, "Business completed. Long live free Roumania!" Another telegram, a few days later, came from Sofia: "Negotiations concluded. Long live free Bulgaria!" Then, from Belgrade, "Successfully signed on the line. Long live free Yugoslavia!"

After that there was no news for several weeks, but finally the following message was received: "I'm in Paris. Long live free Kish!"—France Amérique.

Belching Brunches (Final Football Yarns)

Monday-Morning-Quarterback clubs love to hear whole-cheesecloth fabrications about the coach who turned a Rout into a Victory with his dressing-room eloquence. Between halves of the Big Game, so these stories go, the coach dynamized a losing team into eleven wildcats. Almost without exception these tales are fictitious—as is this one, the most persistent of them all:

At the dramatic midpoint of a crucial Army-Notre Dame contest, Coach Knute Rockne reinvigorated his losing team by recreating a hospital-bedside-scene. Notre Dame's greatest natural halfback, George Gipp, according to this persistent but wholly phony story, told "Rock" in his dying gasp:

"When Notre Dame is being licked by West Point, beg the boys to win just one more game for the Gipper."

What Rockne actually told his boys (as testified by his chief assistant at the time, "Hunk" Anderson) was simply: "Watch Cagle."

True, Too

There were those in the Southern Conference who thought Charlie "Choo Choo" Justice, highly publicized North Carolina flash, was overrated. Coach Wally Butts of Georgia was not among their number.

"This Justice," he warned his defensive backs on the eve of their 1948 game with N. C., "is poison in an open field. He'll feint you dizzy. Keep your eyes on his legs, not on his eyes, head or shoulders."

Georgia punted to Justice early in the first quarter, and "Choo Choo" scampered 80-odd yards for a touchdown. To cap the climax, Justice feinted the Georgia safety man out of position so badly that the latter dived left while Justice wheeled right.

Butts replaced the safety man and glovered:

" Didn't I tell you he'd fake you foolish if you didn't keep your eyes low?"

"Coach," confessed the lad, "you're right. Guess I didn't realize before how smart you are."

Wallace Wade, Duke university's coach in its haloed seasons, was and is a taciturn individual. If he gave the time-of-day to a sportswriter the latter reported it as a "scoop."

Back in the spring of 1930, however, when Wade was coaching at Alabama, he did let his hair down to the writer so far as to spin a yarn. (We were down there with the Illinois baseball team.)

Wade's Alabama eleven, it seems, was on the wrong end of a 21-14 score against underdog Mississippi State. Reason: an "Old Miss" end by the name of Jenkins had been catching "impossible" passes.

Thanks to a lucky break—a 73-yard punt returned by Alabama's safety man—the score was evened up as the fourth quarter began. Wade then sent a sophomore defensive halfback into the game with these instructions:

"Watch Jenkins. Don't let him out of your sight!"

Three minutes later Jenkins caught a long pass and sailed onward and down the yard-stripes for his fourth touchdown.

Coach Wade jerked this substitute mighty fast.

" Didn't I tell you to watch Jenkins?" growled Wade.

"Yes, sir, Coach. I watched him. Believe me, he's the greatest pass-snagger I've ever seen."

Proper Insults

"Champions of the West" were Michigan's football teams for quite a few years. And several Michigan footballers in that Era of Supremacy were sought by less-muscular institutions of higher learning as coaches.

One such was Art Valpey, who was pledged by venerable Harvard.

Art inherited a 190-lb. line and a slow-footed backfield. And he didn't do so well his first year, or his second. In the meantime Harvard's band had put on impressive shows at the half time intervals.

Suggested an alumnus:

"Some of us Old Grads are getting tired of being humiliated every weekend. The Harvard band is magnificent, however. My idea is that the band should stage concerts in Harvard Stadium each Saturday, and then Valpey's football team might provide amusement during the intermission."

Few college coaches of our era are so erudite and competent as Wesley Fesler of Ohio State (who recently left coaching to go into business). Like Bennie Oosterbaan of Michigan, Frank Leahy of Notre Dame, and Ray Eliot of Illinois, Fesler is an alumnus who made good.

Wes laughs at one reminiscence of playing days at Ohio State. The food which he and his fellow athletes were served was so putrid that even the abundantly tolerant youngsters from Pennsylvania coal-mining communities could stand it no longer. Preccocius Fesler complained to a Dean. The latter reacted quickly, and badgered the Chief Cook.

"If no improvement in the meals served to these students is forthcoming," warned the dean, "I shall be forced to dismiss you."

"But," objected the erudite cook, who was studying Spinoza in his spare time, "surely you pay no attention to the whims of these roguish young men when they scoff at my cuisine."

"How's that again? Er, uh, why shouldn't I?" hedged the Dean.

"Because," slied the cook, "they are forever coming to me and complaining about your lectures!"

Alumni Shift

"Bud" Wilkinson of Oklahoma was elected Coach of the Year in 1949. Modestly he credited much of his success to the split-T formation he learned from Missouri's Don Faurot. In this formation, two or three feet of open space separate all the offensive linemen. That's supposed to confuse the defense, and allow the offense to block at sharper and unexpected angles. One back always flanks wide, and frequently grabs pitch-outs from the quarterback, whereupon the flanker tears down the sidelines.

Obviously the quarterback should be able to run, as well as pass and think, in the split-T formation. When the defensive end and halfback flare out to cover the flanker, the quarterback ought to run. When they ignore the flanker and cover him, he should pitch-out to the flanker laterally, or pass. Takes a helluva smart quarterback to figure out, in a split-second, what to do. Linemen must be smart, also—cause they have to watch the quarterback and the flanker from eyes in the backs of their heads—and block accordingly.

Wilkinson remembers one '49 game in which a momentarily befuddled quarterback called a signal none of his teammates had ever heard before. The linemen blocked to their left, the flanker sorted out to his left, and the quarterback scampered toward the right sideline. Almost too late he saw that the flanking halfback was way over on the other side of the field. In desperation he threw a long-long pitchout to the flanker. Covered by 10 blockers, the wrong-side halfback raced 65 yards to score.

"And that sort of thing," Wilkinson concluded, in accepting his Coach of the Year trophy, "has made me a darling of the alumni. Football is a crazy game!"

They Play for Pay— And for Honor, Too

Contrary to canardous rumors, professional football players train religiously while they're working at playing. They have to, because their salaries and continued earning powers depend on their fresh alertness and freedom from injuries. But on the night after their last game each year . . . Katy, bar the door!

The writer, who shared an apartment with some remarkable "pro" football mastodons for several interesting years, received a telephone call early one morning after an end-of-the-season "bust." A great star of the gridiron (not one of the roommates) had been jailed for drunk driving. He needed a friend with ready cash. So we appeared in court with our dishevelled, dejected friend at 9 a.m.

The judge, a football fan himself, was amused by our friend's predicament.

"I feel sure," gently suggested His Honor, "that this little tiff with law-enforcement officers—after all, they're only doing their duty, you know—can be straightened out. This Court cannot recall a time when you've been in trouble before. Your sentence will be suspended if you will collect twelve 'character witnesses' who'll sign statements that you're a decent fellow."

Three hours later we gave Hizzoner a dozen signatures to a typewritten testimonial that Butch Clutch was an estimable person. All these statements, of course, were signed by fellow luminaries of his professional football club.

"Great, grand, wonderful!" beamed the judge. "Sentence suspended."

Sotto voce the judge remarked:

"Intended to let him off anyway. Wanted those signatures, though, for my autograph album."

Quite a few years have elapsed since Jim Durfee refereed professional football games, but his wit and aplomb will never be forgotten. Like Joe E. Lewis of the night club circuit (not to be confused with pugilist Joe Louis) Durfee was a master at silencing hecklers.

In the rulebook of his day there could be found a 15-yard penalty for coaching from the sidelines—if you looked hard enough. It was called rarely on account it was practiced so generally; but Durfee handled it beautifully in a Cardinals-Packers game.

Coach Milan Creighton of the Cardinals had been heckling Durfee unmercifully. The latter held his peace until he and everybody else at Comiskey Park heard Creighton shout to his quarterback:

"Call 62."

Promptly Durfee penalized the Cards five yards.

"What for?" Creighton bellowed.

That's for coaching from the sideline. The penalty is 15 yards, but the coaching you do, I figger, is worth five yards at the most."

They say that never a cheep was heard from the Cardinal coach thereafter.

Sad But True

Laundryman George Marshall, owner of the Washington ("Washington") Redskins professional football club, often master-minded his team from a spot high up in the press box.

By telephone from the press box to the Washington bench he would give orders and carp caustic comments to his coaches.

That time when his favored Redskins were annihilated by the Chicago Bears, 73-0, for the league championship, Marshall trudged up to the press box at the beginning of the game, after watching his captain win the toss.

As soon as he got there he looked down on the playing field and saw his team waiting to receive a kickoff. Grabbing his phone he screamed:

"I told you to kick!"

"We did," meekly replied his coach.

George Marshall is the Bill Veeck of the National Professional Football League. And Marshall's beauteous wife, the Corinne Griffith who palpitates millions of male hearts when she emoted in the movies, has helped stage spectacular entertainments at home games in Washington.

Definitely this glamourous pair has a flair for original showmanship—a flair which pays off at the box-office.

Washingtonians were edified by a dancing bears act between the halves of one game—but never again. After the trained bears finished their performance and reared up to invite applause the field announcer fumbled:

"Let's all give George and Corinne Marshall a great big hand for the grand show they gave us out there on the field."

Rugged individualists are the owners of professional football clubs, and

no wonder. Most "pro" teams lose so much money over so long a period that only a man who's made his own way by taking advice and sass from nobody would underwrite it.

Prominent club-owners in the National League include a laundryman, a taxi-cab fleet operator, a brewer, a cemetery promoter, a racetrack owner, a radio tycoon, etc., etc. When they get together all hell breaks loose. Seldom can they agree on anything. Which prompted a bored sportswriter, who wore himself out covering a protracted committee session, to bulletin:

"Philadelphia, Jan. 21—Tomorrow will be Sunday. This was confirmed at a late hour last night by owners of the NAFL in executive session, but only after a long argument, and by a 6-5 vote. One owner abstained."

G-Men Blockers

Plenty there are who will argue that Sammy Baugh should rank as the greatest passer in football history. As every T-formation quarterback knows, however, a passer is no better than the blockers who protect him.

Baugh admitted as much one night when he was a dinner guest of FBI agents in Washington (after a game in which he fared poorly).

"It's a real pleasure to be here," Sammy grinned. "You fellows are the best protection I've ever had."

No Comment

Less than three weeks after their honeymoon a semi-pro guard by the name of Lester began to find fault, and so did Hester. Their mutual querulousness wound up in mutual shillyshallying, such as this exchange of puns:

LESTER: "Gosh, I miss Ma's cooking. Why can't you learn to make good home-made bread like she does?"

HESTER: "Humph! I'll do that when you learn how to make good money like my father."

The 'Pro' Game Is Better

"Curly" Lambeau organized The Green Bay Packers football club a long, long time ago. And he coached and managed this Wisconsin small-town entrant in the National Professional Football League until 1950, when he moved over to the Chicago Cardinals.

On the sidelines Lambeau is John Barrymore, George Arlen, Boris Karloff, Bob Hope, Jose Ferrer, Edmund Gwenn, and all the other consummate actors of our generation rolled up into one.

It's more fun to watch Lambeau and his sideline antics than to follow the activities of his football team (Television producers: please note).

Like many outwardly Tough Guys, Lambeau is a sentimentalist at heart. Referees who penalize his team he damns eloquently and with magniloquent gestures. But when one of them needs a C-note to "tide him over" he lends it without a question. Fact is, the histrionic "Curly" is so soft-hearted that he can't bear to "fire" football players who fail to meet his high standards. He sends them telegrams instead of doling out the dismal news personally.

Every year Lambeau takes at least 60 or 70 hopeful aspirants to his pre-season training camp. At the end of this tryout period polite dismissal telegrams are dispatched to approximately half of the burly boys whom "Curly" previously has begged to join him.

Lambeau's veterans warn rookies about Telegram Night. And the latter come to fear it as if it meant deprivation of their U. S. citizenship.

Classic story afoot this Telegram Night concerns the unheralded quarterback from Southeast Saskatchewan Stenographic School.

He knew that he'd run, passed, and kicked superlatively in the pre-season tryouts, but was scared he'd be passed over for some All-American Drawing Card. ("Name" players bring customers through the gates even if they don't have What It Takes in the "pro" league).

With increasing tension this unsung football player paced around his room on Dismissal Night—hoping there'd be no knock on his door.

The knock came.

Just as he'd feared, it was a Western Union messenger. Resignedly, he ripped open the telegram.

"Yipee!" he yelled to his gloomy roommate. "Grandma is dead!"



AT THE LEHMAN FARM...



... IT WAS POSSIBLE to convert an old stable to a cold storage room for approximately \$1,300 plus some time and lumber from the farm. In the first picture S. S. Lehman is shown working in his inexpensive cooler, equipped with two Bush "120" blowers. In the second picture Lehman demonstrates use of the small loading and unloading door that cuts operating costs.



AT THE STONE FARM...



... IT WAS POSSIBLE to finish this cold storage room for under \$1,600 by using aluminum foil for insulation. The third picture shows one corner of the room with one of the two Bush blowers. The fourth view was taken while the insulation was being installed. Man on top of the high horses is stapling the aluminum foil to the studding.

Refrigeration Units WANTED

Desire to purchase $\frac{1}{8}$ to 1-HP Sealed or open type; standard brands; Complete condensing units; Also parts; Give full details.

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Aluminum Foil Can Cut Cold Storage Room Cost

Blanket Type Installation Proves Easy To Use In Converting Barn, or Chicken Coop to Cooler Which Holds High Humidity

ERIE, Pa.—Use of aluminum foil insulation can cut farm cold storage room construction cost sharply, farmers in this area report, and even greater savings can be effected if the user can "lend a hand" himself in the construction work.

P. S. Crossman, Erie county agricultural agent, opined that a great change in materials and methods as well as cost, may come about through the expanded and intensive use of aluminum foil insulating methods in farm cold storage room construction.

Important factors are speed of installation, better humidity control, and low operating cost, in addition to low original cost, he said. Practically any unused area or room in a barn or chicken coop can be easily converted to this cold storage method in relatively few hours.

24-INCH ROLLS SUITABLE FOR NAILING TO STUDDING

This aluminum foil sheeting or blankets, made by Reflectal Corp. of New York City, comes in rolls 24 in. wide. This width is convenient for studding and the studs need not be of even surface.

The type of blanket used locally is known as Type B, consisting of three spaced layers of aluminum foil .005 in. thick each. The sheets are separated in accordian fashion to provide the insulating spacing. To the foil thickness facing away from the room is laminated 30/30 kraft paper which adds strength.

While Reflectal holds the patent for laminating foil to other material, other firms are licensed to make the aluminum foil insulation blankets. Reynolds Aluminum laminates to paper, but doesn't make the blanket type of insulation.

To give perfect sealing to the studs, a special cement made by Atomized Products of Bridgeville, Pa. is applied to the joints or the line on the studding where blankets meet or overlap.

On top of this cement is laid a 3 or 4-in. strip of aluminum foil, about .0015 in. in thickness, which bonds onto the blankets when smoothed down with a brush.

SPECIAL CEMENT USED

Wilmer Davis, local salesman for the Alfol foil, explained that the special cement allows the use of cheaper lacquered staples instead of stainless steel ones. This cement does not cause any rusting of the staples, he noted.

S. S. Lehman, fruit and vegetable grower near Girard, Pa., reported that he had a 5,500-cu. ft. cold storage room built for about \$1,300, plus some time and lumber from his own woods.

Lehman chose an old stable area in his barn basement that was rat and weatherproof for the cooler. It measured approximately 18 by 38 by 8 ft.

He put up 2 by 4-in. studding onto which the aluminum foil, in sheet or blanket form, was stapled with a standard handtool for automatic stapling.

The 2 by 4's and sheeting used to

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protect the foil came from his own woods. His costs broke down as follows:

Aluminum insulation @ 7½ cents per sq. ft.	\$105.97
Installation (labor, staples, cement, etc.)	176.00
Refrigeration equipment	945.00

Total \$1,226.97

Lehman uses a 2-hp. Par refrigerating machine, with two Bush 120 blowers, side by side. The equipment was installed by W. S. Coon Refrigeration Sales & Service of Erie.

A 2 by 2-ft. loading and unloading door has been incorporated into the cold storage room in addition to the 4 by 6-ft. main entrance as a time and cold saving feature.

Lehman claims that the foil gives him perfect vapor seal.

"I keep my Grade A apples at about 34° F., and relative humidity stays between 90 and 95%. In fact, we've added water to the floor. This is absorbed by the apple crates and sheeting that protects the foil."

TO PRE-COOL ASPARAGUS

Lehman expects to pre-cool asparagus, an important crop on his 75-acre farm. He cited recent trials along this line, where it was shown that by quickly removing field heat before shipping to Pittsburgh, some 160 miles south of Erie, the asparagus and other vegetables will stand up better and bring more money.

Another advantage that Lehman anticipates is the ability to market his peach crop more leisurely in the Erie area. Through diversified use of cold storage, he and other farmers interviewed stated that they expect better returns on practically everything grown.

On another fruit farm near North East, Pa., east of Erie and near the New York state border, John Stone has built a slightly smaller cold storage room that cost less than \$1,600 (he needed hardware, cloth, and lumber). This is less than one third of a \$5,080 estimate given for the

job by a firm using other methods of insulating.

Stone has a 2-hp. Brunner unit for refrigeration with two blowers at opposite ends of his cooler. Minneapolis-Honeywell and Ranco controls make operation automatic.

This installation was handled by Bird Refrigeration Service, Wesleyville, Pa. Hubert Bird commented:

"We try to figure a job like this to hold high humidity as well as the temperature required. Thus the two blowers aid in obtaining 90% relative humidity without frost or ice on the coils."

ECONOMIES CITED

"In a job of this kind, the cost is in the construction of the cooler, not the machinery involved. This new method will allow cold storage construction practically anywhere that the area to be used is weather-proofed."

Agricultural agent Crossman put aluminum foil insulation on the ceiling and walls of his 12-year-old storage room that has a capacity of about 850 bushels. He reports: "I'm very well pleased with the savings I will realize in electric bills and maintenance of the refrigeration unit."

"Formerly the unit ran almost continuously, although the room was well insulated by old standards. Now it runs some less than half the time, even during loading and unloading of the room."

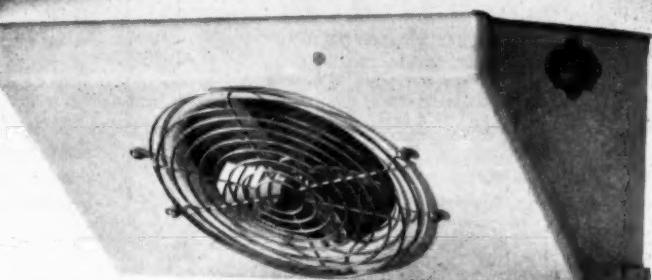
"The motor doesn't overheat, either, as it used to do."

Crossman pointed out that one of the Erie area's largest potato growers is building a 96 by 120 by 17-ft. potato barn or shed of mortarless concrete block and is planning to insulate it with aluminum foil sheets.

He expects that the potatoes will be preserved better under such perfect humidity control and bring a better market price.

Another use of the foil foreseen by Crossman is in roadside fruit, vegetable, and juice stands. With the cold storage space provided by the foil, they will be able to operate more profitably, he thinks.

BETZ CEILING UNITS



Only 8 $\frac{1}{8}$ inches high

Designed Specifically for Reach-Ins

Refrigerated air is exhausted against the back wall and travels in a positive path to the bottom. There is no short-cycling, door sweating or refrigeration losses.

MODEL NO.	BTU AT 1° TD	CFM	SURFACE SQ. FT.	DIMENSIONS		
				H	W	D
100-C	100	180	36.87	8 $\frac{1}{8}$ "	18 $\frac{1}{2}$ "	13 $\frac{3}{4}$ "
130-C	130	250	53.11	8 $\frac{1}{8}$ "	24 $\frac{1}{2}$ "	13 $\frac{3}{4}$ "
190-C	190	310	69.23	8 $\frac{1}{8}$ "	30 $\frac{1}{2}$ "	13 $\frac{3}{4}$ "
260-C	260	415	90.88	8 $\frac{1}{8}$ "	38 $\frac{1}{8}$ "	13 $\frac{3}{4}$ "

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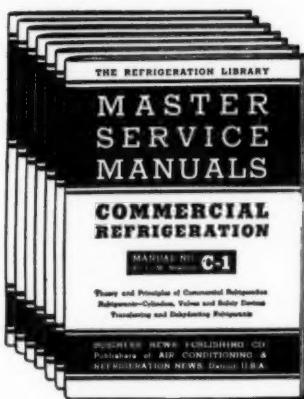


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by Arch Black and Dean C. Seitz

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"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—Charles A. Dana.

One Forecast for 1951 Of Interest to Our Industry

BUILDING contracts will decline at least 20 per cent next year in the 37 states east of the Rockies, it is estimated by F. W. Dodge Corp. Thomas S. Holden, president of F. W. Dodge, and Clyde Shute, assistant vice president in charge of the statistical and research division, agree that this won't be bad, at all. They predict:

"This leaves a dollar total measurably greater than that of any year except 1950, and a physical volume total that would compare favorably with other prosperous construction years."

"We question whether there will be much change in the level of construction costs in 1951. Some materials will be tight; others which were tight in 1950 will be plentiful and competitively priced. Demand for building labor will ease somewhat with reduced construction volume, though doubtless many men who have been employed in construction in 1950 will shift to defense production."

Ingenuity in conserving and substituting of materials, and the view by "responsible leaders in government that a strong civilian economy is just as essential for preparedness as an enlarged military establishment," spur them toward hopefulness.

And, it should be noted, their optimism should be good news to the refrigeration, air conditioning, and appliance industry, because every new building calls for more of our products.

Government action in turning the inflation spigot on and off is appraised realistically by Holden and Shute. They base their relatively optimistic viewpoint on their belief that Regulation W of Oct. 27 will prove to be too drastic and that it will be modified during 1951. (Incidentally, we think so, too.)

Steps to reinvigorate the waning post-war housing boom in mid-1949, plus further credit easing in the spring of 1950, added to a free-spending mood of the public, and combined to bring about a 1950 housing boom that surpassed all records and all expectations. To worry about a 20% drop from that fantastic boom, then, is silly indeed.

"In one important sense the status of the construction industry is radically changed," the Dodge experts point out. "It has suddenly been superseded by the armament industry as the government planners' favorite vehicle for stimulating full employment. However, the growth of momentum and the prospective expansion of the American economy are so great that a continuously large construction demand may be expected without artificial government stimulation."

Control prospects are uncertain, these analysts observe, and with good reason. "The present prospect is," they write, "that controls will be imposed on a more or less experimental basis. Apparently the dominant thought in responsible government circles today is that controls should be kept to a minimum."

We certainly hope so.

Footnote: It's the private opinion of the editors of AIR CONDITIONING & REFRIGERATION NEWS—based upon after-hours conversations with Deciders in the automotive, refrigeration, appliance, and air conditioning industries—that commercial and industrial building will zoom upward hell-bent for election in 1951. Private home construction will slide a bit. Net: Good news for the refrigeration and air conditioning business, any way you try to decipher the future.

Frozen Food Assns. Plan Conference In San Francisco Feb. 27

SAN FRANCISCO—Attendance at the 1951 Frozen Food Industry Convention here Feb. 27-March 2 is going to be pretty good—if preliminary indications are borne out.

Larry Martin, secretary of the National Association of Frozen Food Packers reports that early reservations for the special train which will carry delegates to and from the convention are exceeding previous estimates.

Following a conference with the local host committee headed by Alvin Langfield of Oakland, Calif., who is also president of the National Wholesale Frozen Food Distributors Association, Martin indicated some of the plans for the meeting.

As an all-industry convention, the 1951 gathering will bring together processors of frozen food, distributors, refrigerated warehousemen, brokers, and allied suppliers. While each group will tackle problems closest to its own particular field, several comprehensive sessions for all segments of the industry are included in the program.

The special train which will carry the delegates to the convention here is scheduled to leave Chicago Feb. 22. Delegates from cities to the east and south will join the train there, while others will catch the "Special" en route at Kansas City that evening.

Two days later the delegates will reach Yosemite Valley, Calif., with an overnight stay at the Ahwahnee hotel and a full day following in which to enjoy this national park. San Francisco will be reached Monday morning, Feb. 26.

After the convention, the same special train will take the returning visitors to Los Angeles and Riverside in California as well as the Grand Canyon in Arizona. The schedule calls for the train to reach Chicago March 8.

The San Francisco convention sessions will all be held at the St. Francis hotel here, with the exception of the opening All-Industry luncheon Tuesday, Feb. 27, and the final banquet March 2, both of which will take place at the Palace hotel.

Philco Holders Get Stock Dividend, Approve Split

PHILADELPHIA—The board of directors of Philco Corp. has declared a stock dividend of one share of common stock for each 20 shares outstanding to shareholders of record on Dec. 22, 1950. The dividend is payable Jan. 10, 1951.

The 2 for 1 stock split which was approved at the special meeting of stockholders recently became effective Dec. 1 and the additional shares were delivered to shareholders on or about Dec. 15. The 5% stock dividend just declared is therefore payable on the increased shares.

As previously announced, a cash dividend of 80 cents a share on the company's common stock before the recent 2 for 1 split (equivalent to 40 cents a share on the split shares) was payable Dec. 15, 1950.

Supermarket To Sell Appliances

HOUSTON, Tex.—Frigidaire refrigerators and other appliances will be carried by the new Henke & Pillot Super Market—the thirtieth of the chain.

When 500 Workers Want Lunch Fast, Cafe Needs Specialty Coolers

DENVER—Special-purpose refrigeration enables the new \$100,000 El Rio Grande restaurant at 1017 W. 3rd St. here to cope with the problem of speedily and efficiently serving some 500 customers at the noon rush hour and about half that number at the breakfast period.

The restaurant is equipped with a 22-stool counter rail on the right and booths for 36 persons down the center, in addition to a large dining room at the rear, a 30-stool bar, etc.

Due to the presence of many large factories and industrial plants in the area, it is subjected to the heavy "rushes" during the noon hour and at breakfast time. In the evening, the food service load is transferred to the dining room, which seats 80.

Prescription Counter Makes Fine Place To Sell Tiny Refrigerator

SAN FRANCISCO—By displaying small, "office-size" refrigerators in his window and elsewhere throughout the store, Bruno Kuhe, who operates the St. Francis Drug Co. here, is improving his prescription and biologicals business.

The small 3-cu. ft. refrigerators are regularly displayed in the windows of the store on the prescription counter and elsewhere.

The tiny refrigerators, small enough to be set atop a table in a physician's office, laboratory, etc., can accommodate plenty of biologicals and other products which require refrigeration. Selling at around \$135, they have "turned over rapidly" according to Kuhe, who points them out to every physician visiting his store. In addition, numerous diabetics and other regular users of biological drugs have become sold on the units.

"We suggest the miniature refrigerators for doctors, nurseries, clinics, sickrooms, etc.," Kuhe commented, "inasmuch as they are readily transportable and can be set up in a few moments notice anywhere. After all, when a patient is suffering, refrigerated drugs, ice cubes, etc., oftentimes must be kept handy."

Kuhe has sold these refrigerators throughout the entire Bay area including San Jose, 120 miles away. Dozens of doctors have purchased them, and this, of course, helps the store's biological drug sales inasmuch as physicians frequently order large quantities to be kept in their offices for dispensing.

A typical window display (used in November) showed one of the small refrigerators set up in the center of the display window, with ribbons leading to signs which were lettered "For the Physician's Office"—"For the Sickroom"—"For the Clinic," etc. The refrigerator was shown open with a variety of empty drug cartons inside.

Air Conditioning Is Planned For New Hotel In Venezuela

MARACAIBO, Venezuela—Air conditioning for the new \$2,000,000 Hotel del Lago currently under construction here will be supplied by the Carrier Corp. It was reported recently.

Carrier will install two new reciprocating machines with a combined capacity of 190 tons to supply chilled water to individually controlled fan coil units in 140 guest rooms.

Serving all those patrons at noon has required several unusual steps, according to J. W. Louden, owner. For that purpose, a special "short-order grill unit" is located at the far end of the fountain rail. This is in addition to the all-stainless-steel kitchen, separated from the rail area by a partitioning wall.

The short-order unit contains seven electric cooking units mounted in a row beneath a stainless steel hood. It is provided with five stainless steel refrigerated compartments below.

Compartments are 6 cu. ft. each, and include two meat drawers, one "utility" drawer for dressings, relishes, pickles, potato chips, etc., and two drawers for such items as dairy products and desserts. A 1/2-hp.

condensing unit keeps the two meat drawers at 35°, and the others at 40°.

At the opposite end of the counter rail is a suspended pie case of stainless steel and glass, which permits the restaurant to serve popular cream whipped and custard-type pies the year-round.

The case is 6 ft. long, 3 ft. wide, and 3 ft. deep, and is supported on the wall high enough that the two dozen pies contained can be readily seen throughout the restaurant. A dome-type circulating cooler unit located at the right end provides a temperature that varies from 40 to 42°.

Refrigeration is supplied by another 1/2-hp. unit, which likewise re-

frigerates a stainless steel bottle box immediately below at 38°. Both cases are refrigerated from a single condensing unit through a two-temperature valve system.

In the kitchen, in addition to two large walk-in boxes for meat and dairy products, is a 28-tray stainless steel, custom-built ice cube maker, supplying adequate ice for both the bar and fountain rail. Each of the walk-in boxes has a 1-hp. refrigeration unit to provide temperatures of 35 and 40°, respectively, in the meat and produce cases, while another 1/2-hp. unit is responsible for ice cube making.

Seven more individual refrigerators are located in the restaurant's kitchen.

Distributor Holds Formal Opening at New Location

MEMPHIS, Tenn.—Wallace Johnston Distributing Co., wholesaler for General Electric commercial refrigeration and various other electrical appliances, held open house recently in celebration of the formal opening of the firm's new location at 708 Linden.

Thomas Holloway is president of the distributing firm. Other officers are Wallace Johnston and J. A. Johnston, vice presidents, and Duncan Garrett, secretary-treasurer.

Alcoa Programs To Boost Defense Production 25%

PITTSBURGH—Two major Alcoa programs that together will boost America's production of defense aluminum by more than 25% annually have been announced by I. W. Wilson, senior vice president of Alcoa Co. of America.

The first, a "quick action" plan will be started immediately, and shortly will be producing added supplies of the vital light metal for the national defense stockpile at the rate of approximately 158,000,000 lbs. a year, using stand-by facilities owned by the company which require the use of higher-cost electric power than is economical for peacetime smelting of aluminum.

The second phase is an expansion plan that involves the erection of permanent new capacity by Alcoa, capable of producing approximately 240,000,000 lbs. of aluminum a year. This new capacity will be achieved by enlarging the smelting facilities at Alcoa's Point Comfort, Tex., plant, plus the construction of a new plant utilizing electric power generated from gas or coal fuels.

Air Conditioning Installed In Ga. Dept. Store, Annex

LA GRANGE, Ga.—The Smith-Raymond Co., Inc., of Columbus, Ga., has installed a modern air conditioning system in the Belk-Gallant department store on Main St. here and the store's "B and G" annex on Bull St.

The two stores' air conditioning system is the largest of its kind between Atlanta, Ga. and Montgomery, Ala., according to the company.

There are 10 completely self-contained units, which make up 75% tons of refrigeration.

Each unit has a capacity of from 5 to 15 tons.

It required three months to install the air conditioning units.

Refrigerator Cars May Play Double Role In Bringing Aid In Crisis

NEW YORK CITY—Fleets of self-powered refrigerator cars could be used to rush aid to stricken cities in event of an enemy bombing attack on the United States, declared Joseph A. Numero, president of the U. S. Thermo Control Co.

Having delivered their critical cargoes of emergency food, medicines and blood or blood plasma, these cars, as now equipped for commercial use, could be swiftly converted into operating rooms or small hospitals for the care of civilian casualties. And their gasoline-powered units, in event of a breakdown of generating stations under bombing, could even supply 2,000 watts of electricity for lighting.

Each such car can carry up to 80,000 lbs., a load sufficient to meet the daily perishable food requirements of a small city.

When equipped with the packaged refrigerating-heating system now being produced by his company, a railroad car can hold any desired temperature from -20° F. to 80° F., and over long periods of time, Numero pointed out.

Fruit Growers Express Co., Western Fruit Express Co., and Burlington Refrigerator Express Co. are currently using these mechanical refrigerator cars, chiefly in the transportation of frozen orange juice concentrate from Florida. Thermo-King units have also been installed in over 14,000 trucks and trailers.

Big Air Conditioning Jobs Keep Buffalo Forge Co. Operations at High Level

BUFFALO—Large orders for air conditioning equipment are keeping operations of the Buffalo Forge Co. at high levels, according to Charles A. Booth, vice president.

Booth said Buffalo Forge is providing air conditioning equipment for the new Statler hotel in Los Angeles, the new United Nations Assembly building in New York, and a large department store being built by B. Altman & Co. in White Plains, N. Y.

The company has a six-month backlog of business, much higher than at this time last year, Booth said. He added:

"I can't see any contingency that would keep next year from being a good year."

Sales for the fiscal year just ended are expected to be a little less than in the previous year when they amounted to \$19,094,637. That is because 1949 was an exceptionally good year in general industrial expansion, involving new power plants, textile mills, and other fields using Buffalo Forge products, it was explained by the company.

As is the case in many industries, the steel supply situation threatens to become a problem. Buffalo Forge uses 1,200 tons of steel a month—steel sheets and various forms—and at mid-summer maintained the highest steel inventory in its history.

These supplies are being drawn on rapidly, however.

Minneapolis-Honeywell Expands Philadelphia Facilities

PHILADELPHIA—Minneapolis-Honeywell Regulator Co. is expanding its industrial production and operating facilities in Philadelphia, according to Henry F. Dever, president of the company's Brown Instruments division.

The new expansion is made possible, Dever said, by the purchase of the Thomas M. Royal plant. The company has also acquired about

60,000 sq. ft. of undeveloped property in addition and adjacent to its new site, Dever added.

"It is already apparent that our present facilities are insufficient to permit production in line with demands which are being made upon us by the national mobilization program," Dever said. "We have the largest number of employees in Brown history."

FOR THE REFRIGERATION & AIR CONDITIONING INDUSTRY

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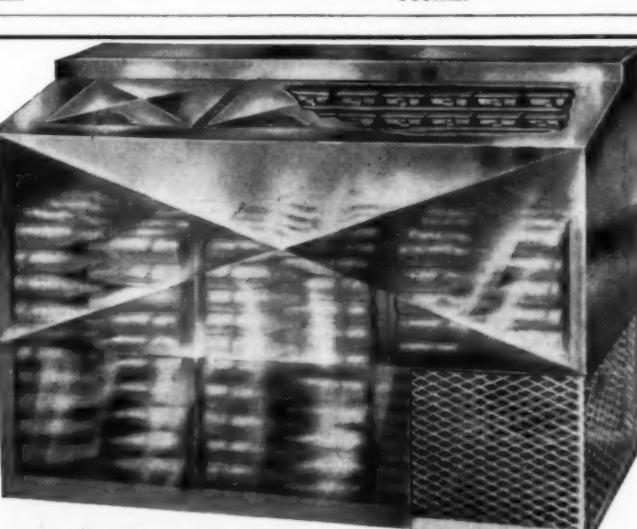
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Wholesalers' Oct. Sales Gain Over 1949

SALES

Kind of Business and Geographic Division

Kind of Business and Geographic Division	Per Cent Change Oct. 1950 from 1949	Oct. 1950 Panel from 1950	No. of Firms	Reported Values
Appliances and specialties wholesalers	+53	+2	+43	97 31,087
New England	+88	-3	+67	12 1,831
Middle Atlantic	+49	+6	+39	20 12,935
East North Central	+94	+10	+71	14 3,341
West North Central	+37	+15	+28	11 1,878
South Atlantic	+39	+3	+39	16 4,619
South Central	+44	-14	+21	11 2,165
Mountain	+79	+7	+57	5 849
Pacific	+50	-9	+59	8 3,469
Refrigeration equipment, parts (com'l)	+29	-9	+23	24 1,031
Middle Atlantic	+29	-11	+26	5 252
South Atlantic	+24	-8	+28	7 456
Pacific	+37	+8	+13	4 118

INVENTORY, END-OF-MONTH (AT COST)

Kind of Business and Geographic Division	Per Cent Change Oct. 1950 from 1949		Oct. 1950 Panel from 1950	
	No. of Firms	Reported Values	No. of Firms	Reported Values
Appliances and specialties wholesalers	+29	+11	76 16,335	
New England	+41	+11	10 1,049	
Middle Atlantic	+47	+15	11 3,519	
East North Central	+65	+17	9 1,741	
West North Central	+32	+3	10 2,865	
South Atlantic	+7	+14	15 2,536	
South Central	+38	+12	9 2,245	
Mountain	+9	+2	5 831	
Pacific	0	+13	7 1,549	
Refrigeration equipment, parts (com'l)	+33	+5	15 1,564	
Middle Atlantic	*	*	*	*
South Atlantic	+49	+6	5 832	
Pacific	+15	+4	4 331	

*Insufficient data to show separately.

Williams Elected Head of New Asheville RSES Unit

ASHEVILLE, N. C.—Clyde Williams has been named president of the newly-organized Asheville chapter of the Refrigeration Service Engineers Society.

Other officers are Fred Carrines, first vice president; H. S. Winters, second vice president; Walter Brank, Jr., secretary; O. N. Gillette, treasurer; and George Taylor, sergeant-at-arms.

The chapter is one of eight in this state and has a local membership of 26 men. It plans to meet on the second Thursday in each month.

Claim Greater Reduction In Surface Tension for New 'Flotectic' Fluxes

NEW YORK CITY—An expanded line of welding fluxes, known as "Lo-Cost Flotectic Fluxes," has been released by Eutectic Welding Alloys Corp. here.

The new flotectic fluxes, it was reported, reduce surface tension to a greater extent than conventional materials used up to now and, accordingly, are said to satisfy this requirement.

Included in the new flux line is "Flotectic Flux 1100," claimed to be capable of drastically reducing silver solder costs by cutting down on the amount used per weld; as well as speeding up production by insuring rapid flow with maximum capillary action.

Complete details of these new products, together with data on application ranges, suggested metals use, governmental specifications, and other helpful information, appear in a new Bulletin No. 106P available upon request.

Ladish Co. Establishes Branch Office In Tulsa

CUDAHY, Wis.—Ladish Co., manufacturer of a complete line of forged and seamless welding pipe fittings has announced the establishment of a branch office at 405-406 Thompson building in Tulsa, Okla. The office is under the management of G. E. (George) Mahoney who for the past 3 years has served as district manager for Ladish at Chicago.

Simultaneously Ladish announced a change in address of their St. Louis office and the appointment of W. H. (Bill) Heckenberg as district manager.

The new office address is Suite 1605, Continental building, 3615 Olive St., St. Louis.

53% Rise Reported by Appliance Wholesalers

WASHINGTON, D. C.—October sales by wholesalers of appliances and specialties were 53% ahead of the same month in 1949 but only 2% ahead of September, the U. S. Bureau of the Census reported recently.

Sales by this group for the first 10 months of the year were 43% ahead of the same period in the preceding year.

Inventories for October were 29% higher than in October, 1949, and 11% higher than in September.

Commercial refrigeration equipment and parts wholesalers reported sales up 29% over October, 1949 but 9% below those of September. For the first 10 months their sales were 23% ahead of the '49 period.

Inventories of this group were 33% greater than last year and 5% larger than in September.

Florida Motel Visitors To Dial Temperature

MIAMI BEACH, Fla.—The contract for the air conditioning installation in the new Charon Motel, under construction at 16525 Collins Ave., in Dade county, northeast of Miami Beach, has been awarded to the Airko Air Conditioning Co., here, an authorized dealer for United States Air Conditioning Corp.

As designed by M. Tony Sherman, Miami architect, the new motel will comprise two 2-story buildings, containing 44 rooms, seven efficiency apartments and a separate L-shaped structure, containing a cocktail lounge and lobby. The general contractor is George Winston.

The air conditioning installation will consist of a 25-ton factory-built UsAircro refrigerated Kooler-Aire unit.

Individual rooms will be equipped with remote manual controls allowing for individual adjustment.

To Air Condition Yarn Mill

STUBBS, N. C.—Jack and Charles Dover, owners of the Dover Yarn Mill here, will double the output of the plant by construction of a two-story air conditioned building at the south end of the present plant. The expansion program will cost about \$200,000.

Doctors Bldg. Gets Cooling

DALLAS—Construction has begun on the Live Oak-Skillman Doctors Building in the Live Oak-Skillman Shopping District. Cost of the building and adjacent area will be \$175,000. Fully air conditioned, the building houses up to 20 doctors.

Where To Put the Drier?

Silica Gel or Sovabead Is More Effective At Beginning of Evaporator, ASRE Told

NEW YORK CITY—A drier containing silica gel or Sovabead "where placed at the beginning of the evaporator is more than twice as effective as one in the suction line, 'Freon-12' being the refrigerant. This same drier is about six times as effective as one on the high side if the drier temperature is as much as 130° F."

These were some of the results of a continuing study disclosed by Dr. W. A. Pennington, chief chemist of Carrier Corp., in a talk before the 46th annual meeting of the American Society of Refrigerating Engineers here.

Discussing the "Role of Adsorption Type Desiccant Within Refrigeration Units," Dr. Pennington declared that "for many years the refrigeration industry has been harassed by the moisture problem as it pertains to the functioning of a refrigeration unit.

"If this problem was at all serious years ago, it has become really acute with the advent of the hermetic compressor. With all the care which is exercised to dehydrate units designed for low-temperature application, it is still felt expedient to install a chemical drier in the system as a matter of safety."

Pointing out some theoretical considerations, Dr. Pennington commented that "regardless of where the drier container may be placed, there is some amount of moisture which it will hold without there being any free liquid water within the

refrigeration system. It follows that there is a definite maximum amount of water which the drier will hold for a given set of conditions without there being a freeze-up."

"Moreover, it is assumed that the freeze-up, especially where a capillary tube is used, will occur shortly after the relative humidity rises to 100% at the exit end of the capillary, providing there is sufficient water in the system to transfer to this customary point of trouble. Let us take the case where the evaporator operates at 0° F. According to data furnished by the manufacturer, liquid 'Freon-12' will dissolve 8 parts per million of water.

"A common error is to assume that the unit will freeze up if this value is exceeded in the steady state. This is far from the truth," declared Dr. Pennington, "because there is no place in the machine where there is a complete cross section of traveling liquid at 0° F. Some 20% of the liquid is vaporized in cooling the incoming refrigerant to the evaporator temperature. So there is then about 80% liquid and 20% vapor."

Research has shown, he said, that vapor will carry 13.3 times as much water at 0° F. as the liquid will with the result that the saturation value for the mixture of the two phases is 27.7 p.p.m.

"This amount is the maximum concentration of water that can be tolerated in 'Freon-12' within a sys-

tem, if there is a chemical drier and the evaporator is at 0° F. with 20% of the refrigerant entering in vapor form," explained Dr. Pennington.

In conducting the tests, two food freezer systems were used, one designed for a 15-cu. ft. cabinet, the other for a 30-cu. ft. model. The drier containers filled with gel were made by McIntire Connector Co. and designed for approximately 26 grams. On the high side they were placed in a horizontal position, and on the low side in a vertical position with the refrigerant flow downward.

"In the early part of the work, the drier containing the desiccant was heated overnight in an oven at 400° F. to effect the dehydration. Water additions were made by passing moist air through the container until the desired weight was attained."

This method, he indicated, was not satisfactory, so it was refined by dehydrating the drier container and its contents in an oven at 350° F. overnight to an end pressure of no more than 50 microns.

Generally the driers were fitted into the refrigeration system by means of silver solder, a slight pressure of dry nitrogen being maintained to prevent moisture formed by the flame from entering the lines.

Deepfreeze Names Distributor

ST. LOUIS — Broadwell & Co., 3005-07 Locust St., has been appointed distributor of Deepfreeze home freezers, refrigerators, electric ranges, and electric hot water heaters in the general St. Louis trading area, including the southern half of Illinois and the eastern half of Missouri.

IT'S NOT JUST NEW....

HERE ARE THE FEATURES THAT MAKE IT GREAT

Unique pressure-limit mechanism with ADJUSTABLE range of 0 to 55 lbs. protects motor from overload on any application.

If pressure rises beyond normal, valve throttles automatically, limiting suction pressure to predetermined setting and thus protecting motor from overload.

When overload condition passes, the famous A-P liquid-charged power element resumes control and maintains normal operation of system.

Heavy forged-brass body. Positively leakproof against all refrigerants. Super-hard stainless steel needle, stainless steel seat and springs assure long, trouble-free service.

Clearly marked adjusting knob provides quick and easy pressure-limit adjustment, to "custom-build" valve for any requirement. Moisture-proof cap covers adjusting knob.

Easily accessible superheat adjustment covers entire normal operating range. Any superheat setting you require, with close control at all temperatures.

Model 209 Expansion Valve, 0 to 1-ton Freon 12. Pressure-limit range 0 to 55 lbs. Available for Methyl and Freon 22.

Listing 'Emergency Call' Numbers In Phone Book Wins Service Patrons

ATLANTA—Listing the home telephone numbers of himself and his three salesmen in his telephone book advertisement has proved to be a potent sales clincher for Gordon McWilliams, head of Refrigeration Appliances, Inc. here.

The Frick and Hussmann commercial refrigeration dealer also features in the advertisement his slogan "Prompt Efficient Service Our Specialty."

Armed with this weapon, McWilliams welcomes queries about service when he is quoting figures to a prospect. When the inevitable question arises, McWilliams asks the prospect for his telephone book. He points out his own advertisement and then challenges the prospect to call any four dealers, including himself, at night or on Sunday.

Faced with this challenge, McWilliams asserted, the prospect soon finds that few dealers list any emergency numbers at all and feels that McWilliams' four home numbers, in addition to the business telephone, are sure to guarantee one response.

Thus dramatizing his availability for service has closed at least a dozen "difficult" prospects this year.

Lovelock Opens New Quarters

SYDNEY, Australia—Grand opening of its new headquarters at 60 Broadway here was held recently by F. C. Lovelock Pty., Ltd., refrigeration equipment wholesaler.

BUILDING RENTAL SPACE

PHILADELPHIA.—In a major face-lifting and renovation program, the old Philadelphia Manufacturers club building at Broad and Walnut streets has been converted into a modern, completely air conditioned 12-story bank and office building.

With its exterior walls sandblasted, and the gingerbread decoration removed, the structure, now called the Central Penn National Bank building, presents a clean, simple, and attractive appearance to Philadelphia's business and shopping district.

The first two floors and part of the basement have been remodeled to house the Central Penn National Bank. Six complete floors are being occupied by Wyeth, Inc., pharmaceuticals, and two floors by the Philadelphia Stock Exchange.

A total of approximately 75,000 sq. ft. of modern rentable office space

is now provided in the building, exclusive of areas occupied by the bank which total another 23,000 sq. ft. of space.

It is expected that the year-round air conditioning system investment will produce its own return in increased rental value, through enhancement of office space desirability.

The air conditioning installation features a Carrier Conduit Weathermaster system with individual room control for all exterior offices, similar to the Weathermaster installation in the United Nations Secretariat building.

Filtered air at controlled temperature and humidity levels is delivered to room units through small diameter high velocity conduits from a central apparatus station. In passing through the unit, this air pulls three times its

Phila. Job Illustrates How Effective Use Of Air Conditioning Can Increase Its Value

volume of room air over a coil, where it is heated or cooled according to the season, and to a degree governed by the room occupant. The mixture of air is released upward through a grille and adjustable deflectors for even, draftless diffusion throughout the room.

The absence of moving parts in the room unit, and special sound absorbing design are said to insure "an exceptionally low noise level." Use of small, high velocity conduits largely eliminates the loss of rental space formerly involved in installing conventional rectangular ducts for normal velocity air distribution, according to Carrier.

Exterior offices are served by 211 individual weathermaster units. In addition to this system, a Carrier weathermaker on each floor, supplied with chilled water by the central re-

frigeration machine, provides air conditioning for offices in the interior zone. Still a third air conditioning system distributes air through ceiling diffusers to the bank spaces on the first and second floors and in the basement.

Refrigeration for all three systems comes from a Carrier centrifugal machine in the sub-basement. The centrifugal compressor, which automatically adjusts its refrigeration output to the amount needed, is driven by a 400-h.p. motor.

Thalheimer & Weitz of Philadelphia were the architects with Carlos A. Mosquera, acting as consulting engineer. The air conditioning contract was placed through Huffman-Wolfe Co., of Philadelphia, mechanical contractors, with Turner Construction Co. acting as the general contractor for the job.

Reference-Wheel Furnishes Data on Copper Tube

D E T R O I T — Designed to show readily information about the major characteristics of each size copper tube used in the refrigeration industry, a pocket-size reference wheel called a Selector has been developed by Wolverine Tube Div. for distribution through its parts wholesalers.

It consists of an assembly of three cardboard discs which rotate around a common center. If it is desired to know the characteristics of the $\frac{1}{4}$ -in. o.d. opening on the perimeter of disc and the vertical opening discloses that: its wall thickness is .030 in., it comes in coils of 50 ft., each weigh-

ing 4.02 lbs., and there are 11 coils in a standard package.

The safe working internal pressure for this size tube is given as 1,480 p.s.i. This type of information is given on each size from the smallest outside diameter to the largest.

The reverse side of the Selector is similarly designed to give information about copper water tube.

Thor Names Distributor

CHICAGO—Thor Corp. announced recently the appointment of National Sales Co., 365 North St., Rochester, N. Y., as distributor of its full line.

New 3-Book Set Aids In Training Apprentices for Plumbing, Pipefitting

OAKLAND, Calif.—Three sets of workbooks and textbooks for use in training apprentices in the plumbing and pipefitting craft were recently released by the California State Department of Education's Instructional Materials Laboratory. Work on two more sets is rapidly nearing completion.

The books were written by expert journeyman plumbers and steamfitters with the advice and counsel of a State Educational Advisory Committee made up of representatives of both management and labor.

Among those who have written one or more units in the five sets of books are H. Wesley Smith, refrigeration instructor, San Diego Vocational high school and junior college, and Harry L. Bowe, coordinator, air conditioning and refrigeration, Los Angeles city schools.

Titles of the three books now available and their prices are:

"Part I: Basic Principles of Plumbing, Heating, Refrigeration, and Air Conditioning." Workbook and textbook, \$1.75 each; final examination, 15 cents.

"Part II: Advanced Pipe-fitting Layout and Mathematics Heating and Refrigeration Science Plumbing Fixtures." Workbook and textbook, \$1.35 each; final examination, 15 cents.

"Part III: Water Pollution, Piping Materials, and the Science of Heating, Refrigeration, and Air Conditioning." Workbook and textbook, \$1.50 each; final examination, 15 cents.

Copies of the books may be obtained by sending orders with remittances to the Bureau of Textbooks and Publications, California State Department of Education, Sacramento 14, Calif.

Purchasing Agents See Good Business During First Quarter - If

NEW YORK CITY—Good industrial business during the first quarter of 1951, unless further hampered by government restrictions on the use of critical materials, was foreseen by the National Association of Purchasing Agents following its November business survey.

Basis for the prediction was the fact that all purchasing agents participating in the survey said they were buying at least 90 days ahead and 29% said they were buying four months or more ahead.

New orders fell off slightly during November, the business survey indicated, though production continued high and is still rising where materials and manpower are available. Government orders, it noted, are increasing gradually though their overall effect is spotty.

National Production Authority orders that cut back use of certain metals were said not to be as severe as expected though they would hinder production of non-military items.

Prices edged up in November, though they are now expected to level off unless wage rates go up again. Inventories are declining although many stocks are reported to be out of balance.

Safeway Markets In Texas Expand Air Conditioning

FORT WORTH, Tex.—A number of Safeway Supermarkets in Texas have recently changed their fan ventilation systems to complete air conditioning, the Weaver Refrigeration Co. here, which installed the new equipment, has announced.

Alton self-contained package air conditioning units of 20 and 25-ton sizes have been installed in stores at McKinney, Sulphur Springs, Mount Pleasant, Stephenville, and San Angelo, the company said.

The installations have been arranged to utilize space heaters through the same duct system for winter heating and ventilation, it added.

Greyhound Places Big Order for Air Conditioners To Cool New Bus Fleet

SYRACUSE, N. Y.—A major order has been placed for 579 Carrier air conditioning systems to equip a fleet of intercity busses now under construction for the Greyhound Co.'s nation-spanning bus network.

Supplementing Greyhound's vast fleet, which already includes more than 2,500 air conditioned busses, the new busses will provide modern, comfortable service on new routes, and additional service on existing routes.

Most of the air conditioned Greyhound busses now in service use a special installation developed through the cooperative effort of Tropic-Aire, Inc., maker of bus equipment, and Carrier Corp.

The new equipment will provide an even greater flow of filtered air automatically controlled for temperature and humidity, to take care of extreme conditions, and to compensate for the frequently changing climatic situations a fast-moving vehicle is likely to encounter.

"Some years ago the Tropic-Aire Carrier bus air conditioning system was developed to meet these diverse requirements, and the additional ones of lightness in weight and ease of operation and maintenance," Carrier stated. It includes a reciprocating compressor made largely of aluminum, and using safe 'Freon-12.'

"The compressor is driven by its own gasoline engine, also designed for lightness and efficiency. An unloader valve on the compressor and other controls automatically vary the amount of cooling to meet changed conditions inside the bus."

"Air for the system passes through filters and over the refrigerant evaporator coils where it is cooled and dehumidified. Then it is uniformly distributed through vents in the ceiling to the passenger compartment."

The new air conditioning systems will have a maximum cooling capacity of about five tons, and will send a flow of conditioned air into the bus at the rate of 1,200 c.f.m.—enough to replace the air once a minute.

Despite its high capacity, the approximate weight of the unit will be only 600 lbs., exclusive of power source, Carrier pointed out.

Fresno, Calif., Dealer Moves

FRESNO, Calif.—Ruschaupt's appliance store here recently moved from 1515 Van Ness Ave. to 1470 N. Van Ness Ave., giving the firm more than twice the floor space as at the old location.

it's Revolutionary!

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EXPANSION VALVE
DESIGN IN TWENTY
YEARS ...**

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No OTHER VALVE can even approach the down-to-earth usefulness and economy of the Model 209 for replacement service. No matter what the job may be, the Model 209 can be "tailor-made" to suit it—instantly!

Write for Bulletin R-1 today, and get the complete story of this remarkable valve.

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Please send me Bulletin R-1 on the revolutionary A-P Model 209 All-Purpose Expansion Valve.

Name.....

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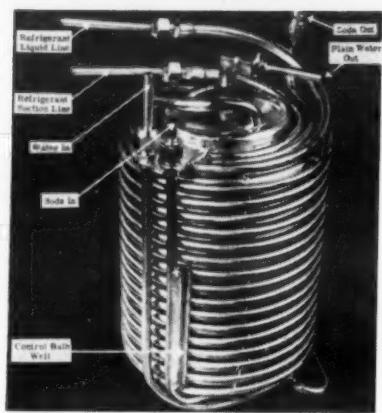
Street.....

City..... State.....

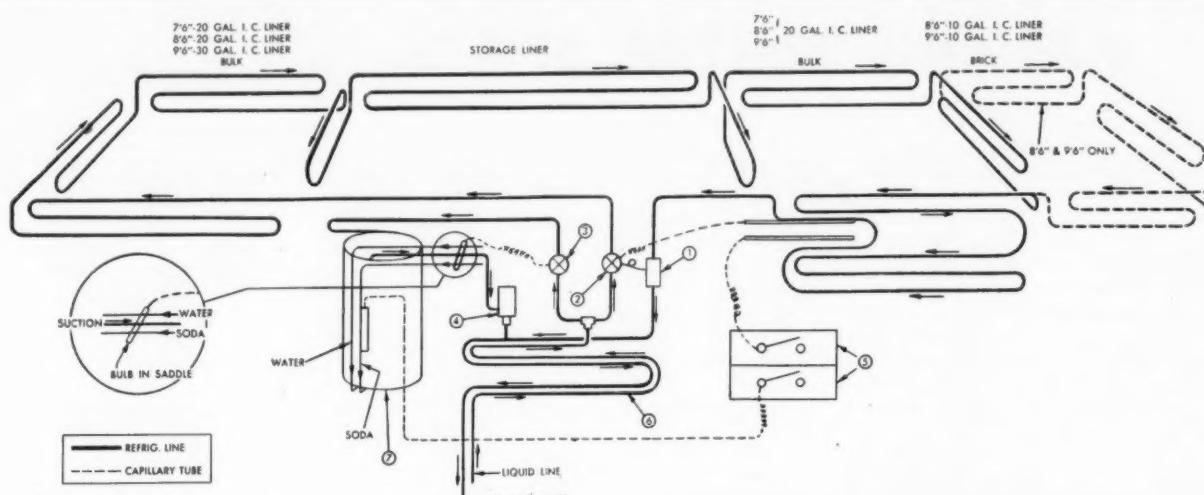


DEPENDABLE Controls

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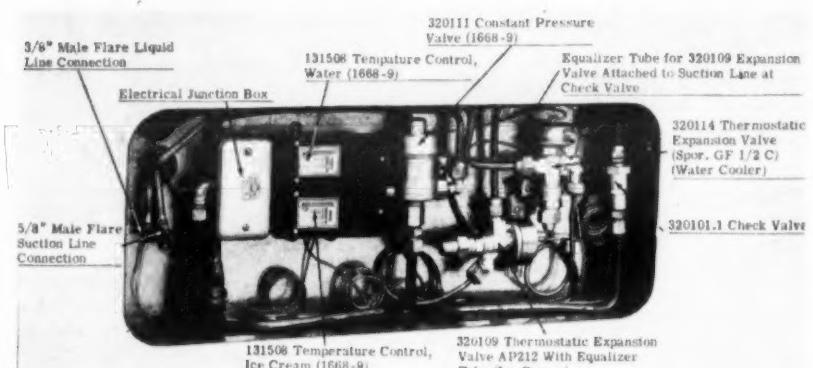


Featured component of the Liquid Carbonic "Diamond 50" line of soda fountain equipment is this "Max-i-flow" water-chilled unit which incorporates four paralleled lines for water, refrigerant (two), and carbonated water wrapped around a cylinder that holds the cold water reserve. Two layers of refrigerant tubing are joined to form continuous evaporator.



Shown diagrammatically is the refrigeration hookup for a typical "Diamond 50" soda fountain as produced by Liquid Carbonic Corp. Key to the numbered parts is as follows: 1—Refrigerant check valve;

2—A-P expansion valve; 3—Sporlan expansion valve; 4—Temprite S.P. regulating valve; 5—Temperature control; 6—Heat exchanger; 7—Soda-water cooler.



Refrigerant valves, heat exchanger, check valve, and temperature controls for the soda fountain are located in an accessible service opening at the front of the fountain.

ADEN AFGHANISTAN ALBANIA ALGERIA ANGLO-EGYPTIAN SUDAN ANGOLA ANTILLES ARGENTINA AUSTRALIA AUSTRIA AZORES BAHAMAS BAHRÉIN BARBADOS BELGIAN CONGO BELGIUM BERMUDA BOLIVIA BRAZIL BRITISH COLONIES BRITISH EAST AFRICA BRITISH GUIANA HONDURAS CHRISTMAS ISLANDS COLOMBIA CUBA CURACAO COSTA RICA DOMINICAN REPUBLIC ECUADOR EGYPT EL SALVADOR FINLAND GREECE HUNGARY IRELAND JAPAN KOREA MALTA MEXICO NETHERLANDS NEW ZEALAND PAKISTAN PERU PHILIPPINES PORTUGAL SINGAPORE SPAIN SWEDEN SWITZERLAND TURKEY U.S. MEXICO VENEZUELA YUGOSLAVIA ZAMBIA ZIMBABWE

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PART 1

compartment to produce a high temperature for bottle storage.

The refrigerant flow to the ice cream and bottle storage evaporators is controlled by a thermostatic expansion valve located in the control service panel at the front of the fountain. The expansion valve is equipped with an external equalizer tube which maintains a uniform refrigerant pressure throughout the complete circuit. The result is uniform ice cream temperature.

The equalizer tube from the expansion valve is connected to the ice cream evaporator suction line at the check valve. The expansion valve is supplied with a standard 7° superheat setting which is approximately correct. The equalizer feature of the valve maintains uniform refrigerant pressure regardless of the length of tubing in the evaporator.

Both the ice cream expansion valve and temperature control bulb wells are located on the side of the bottle storage compartment. Each bulb well is marked: IMPORTANT DO NOT SWITCH THE BULB LOCATIONS.

The bulbs should always be pushed to the bottom of the well and the well filled with petrolatum or vaseline. The bulb wells are filled with petrolatum at the factory and the bulbs are inserted in their respective wells.

SYRUP RAIL

The syrup rail is refrigerated by a cold wall. The stainless steel interior is free from all refrigeration fittings on connections, making it easy to keep clean.

A copper apron is soldered to the front face of the syrup rail liner and extends down into the ice cream sleeve and storage compartment liner, making contact with the rear edge of the refrigerated liners.

The syrup rail is continuously cooled by heat being conducted to the ice cream storage section liners. The syrup rail does not warm up during the condensing unit "off" cycle.

TEMPERATURE CONTROLS

Two similar temperature controls are used to control the ice cream storage and water temperatures. The two controls are wired parallel and either may start the condensing unit without effecting the other control. The condensing unit will not stop until both controls "shut off." This allows the ice cream and storage temperatures to be controlled independent of the water cooler.

The bulb for the water temperature control is inserted in a well provided on the cooler and the ice cream temperature control bulb is inserted in a well on side of the storage compartment. BOTH BULBS ARE PROPERLY LOCATED BY THE FACTORY AND SHOULD NOT BE MOVED.

CHECK VALVE

A check valve is installed in the suction line from the ice cream evaporator. The check valve prevents the warm refrigerant vapor from the water cooling section from condensing in the cold ice cream evaporator during the "off" cycle, and causing a frost back or excessive sweating of the suction line at the start of each "on" cycle.

HEAT EXCHANGER

The suction line from the water cooler tees into the suction line from the ice cream section evaporator and all the suction gas passes through the heat exchanger counter flow to the incoming warmer liquid refrigerant effecting a maximum heat transfer. The heat exchanger improves operating efficiency, and in conjunction with the check valve eliminates the sweating or frosting of the suction line outside the unit.

SERVICE PANEL

All refrigerant valves, heat exchanger, check valve, and temperature controls are located in the large accessible service opening at the front of the fountain.

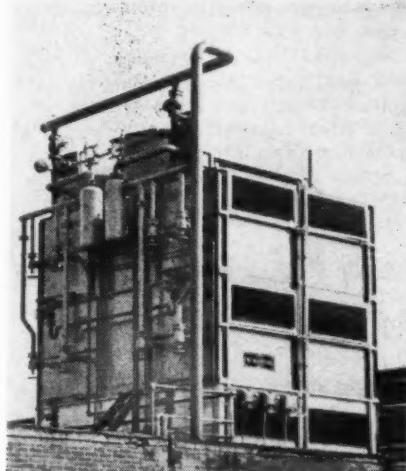
(To Be Continued)

Cool New Piggly-Wiggly Unit

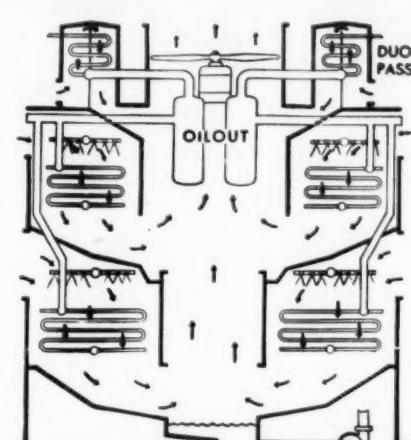
RALEIGH, N. C.—A new supermarket, air conditioned with Chrysler Airtemp equipment, has just been opened by the 14-store Piggly Wiggly chain at 718 N. Person St. The new store has 6,600 sq. ft. of floor space.

What's New

When requesting further information on new products, please use "Information Center" form.



Niagara Blower's High Capacity Condenser.



Flow Diagram for the Aeropass Condenser.

Aeropass Condenser Serves Big Refrigeration Plants

KEY NO. A-110

NEW YORK CITY—A new high capacity Aeropass condenser built to serve large refrigeration plants has been announced by Niagara Blower Co. here.

The condenser's nominal rating is 300 tons, and in field tests approximately 350 tons capacity is reported. In principle it is like the smaller units of Niagara Blower manufacture, making use of the company's patented "Duo-Pass" pre-cooling coil and "Oilout" oil separator.

Operation of the condenser was explained as follows:

The refrigerant gas first passes through the pre-cooling coils which are located on top of the structure. These coils remove the superheat and reduce gas temperature close to its condensing point. This coil also condenses entrained oil vapors, thus providing an ideal point for easily removing oil from the system by the 'Oilout' separator drums which are next in line.

The gas then passes to the condensing coils where it is condensed by the effect of evaporation of a strong water spray. By the evaporation principle approximately 1,000 B.t.u. are removed from each pound of water evaporated and condensing is most efficient, and at low tempera-

ture. Since the superheat has been previously removed there is no tendency for salts to precipitate and clog the condenser coil banks.

"As only the water evaporated is consumed, very large water savings are made as compared to conventional condensing methods. Also, great savings are obtained in the use of space and in piping, pumping, and operating horsepower.

"Air is drawn through the condenser by a large propeller fan. It enters through screened ports arranged so that the correct proportion of the air stream passes through the two pre-cooling 'Duo-Pass' coils and the four sprayed condensing coils.

"The spray water falls to a tank at the base from which it is recirculated by a pump.

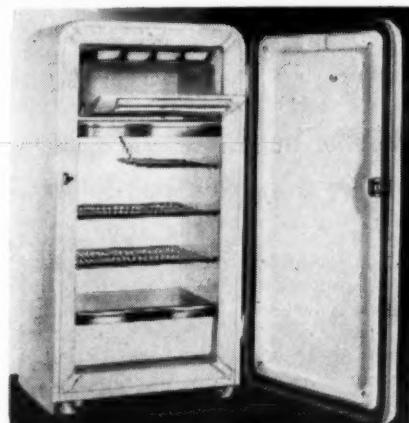
"Exhaust air, containing a proportion of hot dry air from the pre-cooling coils, is lowered in humidity so that fog is not blown from the condenser."

In spite of the high capacity provided, the company said, the equipment is compact, measuring 14 ft. by 13 ft. in length and breadth and 18 ft. in height. Weight is approximately 20 tons.

With a boom derrick, the complete condenser has been assembled on the job in 2½ days, it was stated.



Quicfrez Refrigerator Line Styled by Stevens



KEY NO. A-112

Fluorescent Sun Lamp Has 4,000-Hour Life

KEY NO. A-111

BLOOMFIELD, N. J.—The benefits of natural sunlight can be simulated indoors all year long with the 20-watt fluorescent sun lamp developed by engineers of the Westinghouse Lamp division, here.

The tubular lamp emits a concentrated band of radiations in the mid-ultra violet region of the spectrum (2,800-3,200 Angstroms).

The portable fixture can be plugged into any standard electrical outlet. The fluorescent sun lamp is claimed to be five times more efficient than sun lamps of previous manufacture, and has a life of more than 4,000 hours.

FOREST PARK, ILL.—A new device for measuring temperature by means of thermocouples has been developed by Kirby Walker here. It is called the Potentiometric D'Arsonval Indicator, model 150.

The temperature indicator is said to combine the advantage of the potentiometer—the null method—with that of the pyrometer, which continuously floats the temperature on a dial.

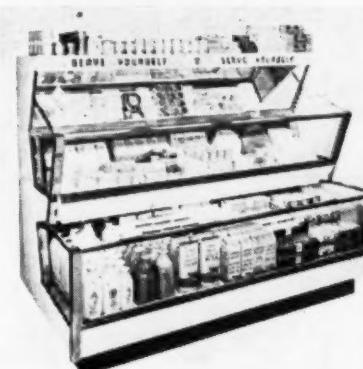
Three scales use standard thermocouple wire: 0 to 22 in millivolts, 0 to 2,500 in degrees Fahrenheit for chromel alumel couples, and -150 to 700° F. for copper constantan couples.

The panel arrangement of dial, knob, and switch locations have been worked out on a motion study basis, the manufacturer claims. A selector switch and individual adjustment makes it practical to operate two couples simultaneously, he commented.

The indicator has been built into a leatherette case measuring 13½ by 20½ by 6 in. and weighs less than 20 lbs. There is a side pocket for wire and other items. For carrying, a handle is provided at the small end. Complete step by step directions under glass are contained within the cover.

On the panel, the steps to follow are numbered. The case may not be closed with the power on. Pressing a switch throws the loaded battery voltage on the 6-in. wide dial. A single dry cell battery activates the indicator. Other cells will fit the pocket holder.

Bally Dairy Case Gives Greater Display Space



KEY NO. A-113

BALLY, Pa.—Increased display space for all types of dairy products is available with the two-shelf self-service case now being manufactured by Bally Case and Cooler Co., located here.

Since the case is open from front to back and from end to end, it utilizes every inch of display space and gives the dealer "preferred position" display for every item. The large mirror doubles the entire top shelf display.

Acid-resistant porcelain has been used to finish both the inside and outside of the case, and the inside of the coil compartment is lined with non-rusting stainless steel. An insulating air space between the double glass front and ends prevents fogging and helps to assure maximum display.

Each shelf is refrigerated and holds large amounts of merchandise. Even bottled dairy products and bulky packages can be kept in the display case.

This Bally two-shelf case is available in sections either 6 feet or 9 feet long. Combinations of either length can be joined for uninterrupted display.

Temperature Indicator Uses Thermocouples



KEY NO. A-114

FOND DU LAC, Wis.—The 1951 refrigerators in the "Quicfrez" line, made by the Sanitary Refrigerator Co. here, have been styled by Brooks Stevens & Associates, nationally famous designers.

Distinctive beauty is given to these refrigerators, with neat trim of chrome and a plastic emblem in gold and blue. The breaker strips are white and the rounded corners add to the neat look of the cabinets.

The Quicfrez refrigerator line includes two new sizes—9.6 cu. ft. and a 7.6 cu. ft. Each of these has a frozen food compartment that is extra large in relation to the overall storage space, and a spacious hydrator drawer. Full length doors are on both models.

Also in the Quicfrez line are the two economy size models—4 cu. ft. and 6 cu. ft. These two low-price refrigerators do not have the special features of the larger models.

The new "free-eze" ice cube tray used in the Quicfrez line has a special finish that prevents sticking to the ice cube tray shelf. Ice cubes are easily removed, too.

Current Literature Available

To obtain further information on the literature listed below, please refer to key number preceding listing. Please use the "Information Center" form on "What's New" page.

How To Service Clear Cabinet Lids

KEY NO. M-110

PASADENA, Calif.—A four-page service bulletin (No. 1122) on transparent cabinet lids has been recently published by R. K. Merritt & Associates here.

The bulletin gives details on how to service transparent cabinet lids to increase their merchandising value and prolong their life.

Included are instructions on cleaning, waxing, buffing, sanding, repairing, and moisture.

Copies of the bulletin are offered free on request.

standard Airtron, and provides a graphic means of selecting the most suitable type, based on temperature and pressure requirements.

The balance of the manual is devoted to general information on Airtron fiberglass ducts, sleeves, and couplings, and detailed description of each of the five basic types, illustrated with photographs and showing examples of typical applications.

Outlines Selling Points On Porcelain Enamel

KEY NO. M-112

WASHINGTON, D. C.—A handbook outlining the main selling points of porcelain enamel has been prepared for retail salesmen by the Porcelain Enamel Institute.

Designed specifically as a sales training piece for home appliance, plumbing, and kitchen furniture salesmen, the booklet describes the characteristics of porcelain enamel.

The basis for these selling points, such as permanence, resistance to heat, and cleanability, is explained in non-technical terms so that the salesman can back up his statements with an explanation of the physical principles involved.

Brochures Issued on '50 Ace Cabinet Line

KEY NO. M-113

NEW YORK CITY—Ace Cabinet Corp. here has recently completed a series of brochures on its 1950 line of low-temperature cabinets and soda fountain equipment. Colorfully illustrated and described are display cabinets, storage and freezing cabinets, ice cream merchandisers, frozen food display cabinets, and bobtail soda fountains.

Information Center

Here is an easy, convenient way for you to get more information on "What's New" items and on products advertised in this issue of AIR CONDITIONING & REFRIGERATION NEWS. New literature and catalogs available to readers can also be obtained by using the form below. Your requests for this information will be forwarded promptly by the NEWS.

In requesting additional information on "What's New" and "Current Literature Available" items, please use Key Nos. shown on these items.

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Refrigeration Problems and their Solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

Mixing Water Vapors & 'F-12' Vapors (2)

We have demonstrated that two gases can occupy the same container at the same time, and that each follows its temperature-pressure law just the same as if the other were not present at all.

Although it sounds impossible, a 1-cu. ft. container can hold 1 cu. ft. of "Freon-12" gas and 1 cu. ft. of water vapor at the same time. Their molecules mix and occupy the spaces between the molecules of the other.

Each of the two, the "Freon-12" vapor and the water vapor, will have its own pressure, which depends upon its temperature; and each will have its own density, that is, how much of the gas there is by weight, in the container.

On the other hand, a gauge on the container would read the total pressure, which would be the pressures of the two gases added together.

Last week we had a 1-cu. ft. container at 0° F., filled with a mixture of saturated "Freon-12" and saturated water vapor. (Water vapor exists at 0°, or at other temperatures below freezing, just as it exists above freezing.) The gases were saturated but there was no liquid present; neither liquid "Freon-12" nor water.

The "Freon-12" had a pressure of 23.9 p.s.i.a. (9.2 p.s.i. gauge) and a density of .6109 of a pound per cubic foot. The water vapor had a pressure of approximately .02 (1/50) of a pound per square inch absolute (29.883 in. of mercury vacuum), and a density of .000068 of a pound per cubic foot.

There was .610968 of a pound of the mixture (.6109 + .000068) in the container, and the total pressure was 23.92 p.s.i.a. (23.9 + .02).

COOLING FROM 0° TO -20° F.

Suppose that we cool this mixture from 0° to -20°. As soon as the temperature drops below 0°, some of the "Freon-12" vapor and water vapor will start to condense, and the individual pressures of both the "Freon-12" and of the water vapor (these are called their "partial" pressures) will drop, so consequently their combined or "total" pressure will drop.

When we get the temperature down to -20°, the "Freon-12" pressure will have dropped to 15.3 p.s.i.a. (.6 p.s.i. gauge), and at -20° the pressure of the water vapor will have dropped to .006 of a pound per square inch absolute (29.908 in. of mercury vacuum).

So the "Freon-12" pressure will have dropped to a little more than one half what it was at 0°, and the water vapor pressure will have dropped to less than one third of what it was at 0°.

At the same time, that is, at a temperature of -20°, the density of the "Freon-12" vapor will have dropped to 4042 of a pound per cubic foot. The difference in densities, .2057 of a pound, will have condensed out into liquid "Freon-12" in the bottom of the cylinder.

Also at the same time, the density of the water vapor will have dropped from .000068 to .000021 of a pound per cubic foot, which is less than one third of what it was at 0°. The difference, .000047 of a pound of water (or about one third of a drop) at that low temperature will have turned to ice.

If we slowly warm the cylinder back up to 0°, the liquid "Freon-12" and the ice return to saturated vapor form, and the pressures and densities return to what they previously were at 0°.

Therefore, the dewpoint temperature of the moisture in the evaporator must be as low or lower than the lowest temperature at which the evaporator is to be operated; otherwise, some of the water vapor will condense out and, as water or ice, will cause trouble in the system.

WHAT THIS TEACHES US

The main purpose of going into the foregoing discussion and example is to show what the relationships of refrigerant and water vapors in the system are, and how they change with temperature; also that the two can exist in the same vessel at the same time.

Other facts that could not have escaped notice were the very low pressures exerted by the water vapor; and even more noticeable, the extremely small amounts of water vapor, that is, densities, at the low temperatures. These low densities mean that the water vapor is exceedingly rarified, that is, its "specific volume" is very high.

At 0°, the density of saturated water vapor is .000068 of a pound per cubic foot; so 1 lb. of this water vapor would occupy 14,810 cu. ft., which is called its "specific volume," and is found by dividing one by the density ($1 \div .000068$). Compare this with the specific volume of "Freon-12" vapor, saturated at 0°, of 1,637.

To pump 1 lb. of water vapor at this density and specific volume, we would have to move almost 1,000 times as much volume as to move 1 lb. of "Freon-12" vapor saturated at 0°. To do this, the compressor would have to have about 1,000 times as much displacement in cubic feet per minute.

The extremely low density and specific volume of water vapor has important practical significance, and should be remembered.

It means that in systems in which water is used as the refrigerant, even with evaporator temperatures above 32°, the compressor must have a very large displacement in order to pump the very large volumes of water vapor necessary. Therefore, only compressors of the centrifugal type are practical for use with water as the refrigerant.

(To Be Continued)

Taylor Gets Operational Post with G-E Supply Corp.

BRIDGEPORT, Conn.—Larison H. Taylor has been appointed assistant manager of operations of the General Electric Supply Corp., it has been announced by A. J. Parsons, vice president.

Taylor, who was formerly assistant to the manager of marketing of the General Electric Co.'s appliance and merchandising department, joined the company in Schenectady in 1925 following graduation from Lafayette college. In 1938 he became assistant manager of credits and collections for the appliance and merchandising department.

He was later appointed assistant to the appliance sales manager and then manager of the product service division. In 1945 he moved to New York as vice president of the G-E Credit Corp. He returned to Bridgeport in his most recent capacity in 1948.

Kane Expansion Includes Air Cooled Dealer Hall

CLEVELAND—The Kane Co. here has announced that it will move to a five-story, 160,000-sq. ft. building at Payne Ave. and E. 40th St. on Feb. 1, 1951.

Louis Miller, general sales manager of the appliance distributorship, said, "The expansion and modernization of our new home will cost in the neighborhood of \$240,000. The building is a five-story affair with the second floor fronting on an elevated railroad siding."

"The third floor will contain an air conditioned auditorium which is large enough to hold 250 persons for dealer meetings."

Present address of the company is 2621 E. Ninth St. where it has been since 1928. The new site was formerly occupied by American Can Co.

Alter Building for Penn-York

HARRISBURG, Pa.—Penn York, Inc., which specializes in refrigeration at Third and Reily Sts., is remodeling the Baker building at 2218 Susquehanna St. for offices, storage, and showrooms. A building permit filed at City Hall places the improvement costs at \$4,000.

Arizona Appliance Dealers Note Oct. Sales Decline

PHOENIX, Ariz.—Central Arizona appliance dealers found sales of most major appliances during October to be below the level of September, a sales report issued recently by the Appliance Merchandisers Association here has indicated.

Slight gains were made in electric water heaters, driers, and dishwashers, but electric ranges, refrigerators, freezers, automatic washers, and ironers were down. Refrigerator sales, off the most, were down about 5%.

Refrigerated air conditioning unit sales were also below the September level.

Unit sales for the month as compared with September and for the 12 months ending in October were as follows:

Electric Appliance	Sept.	Oct.	mos.
Refrigerators	1,014	504	10,343
Freezers	131	128	1,364
Ranges	94	82	1,004
Water Heaters	31	34	398
Automatic Washers	403	367	4,175
Driers	6	8	70
Dishwashers	15	19	265
Ironers	45	29	525
Refrigerated Air Conditioners	30	23	308

Thor Names DuBois To Head Newly Created Midwestern Division

CHICAGO—Thor Corp. has announced the creation, effective Jan. 1, of a new Midwestern Sales Div. with headquarters at Kansas City, Mo.

Announced also was the appointment of C. D. DuBois as sales manager of the new division. He has been sales manager of Thor's Special Accounts Div. for the last four years.

Establishment of a new division marks a major change in Thor's national distribution setup, which for the last 14 years has been built around four divisions—eastern, central, southern, and western.

M. R. Wilson, general sales manager, said creation of the new division "marks a new step in our program to provide the closest executive support possible for our distributors and dealers."

The midwestern division will cover 13 states. The territory is bounded by the Mississippi River and the Rocky Mountains, the Gulf of Mexico, and the U. S.-Canadian border. Division headquarters will be at Suite 604 in Kansas City's Merchandise Mart building.

Before joining Thor in 1947, DuBois served as general sales manager of the Tool Div. of Burgess Battery Co., for three years. Previously he had been sales manager for the Fotheringham Sales Co., New York.

Schaeffer Heads Scheduling of Foundry Output at Hunt-Spiller

BOSTON—Hunt-Spiller Mfg. Corp., here, producer of air conditioning and refrigeration field castings, has placed J. William Schaeffer in charge of foundry production scheduling. With the company since 1936, he formerly headed its standards section.



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"Service Doesn't Falter When It Comes From Harry Alter"

Charles Wright Becomes Gen. Auditor for American Central

CINCINNATI—Appointment of Charles H. Wright as general auditor for the Crosley and American Central divisions of Avco Mfg. Corp. has been announced by L. W. Adkins, the general controller for these divisions.

Prior to joining Crosley, Wright was associated for four years with Arthur Young and Co., certified public accountants. He joined that firm as senior accountant, and later was appointed to the position of managing accountant.

Kisco Plans Big Promotion As Aid To Dealer Sales

ST. LOUIS—J. W. Kisling, president of Kisco Co., Inc., here, builder of air circulators and a line of portable window fans, has announced 1951 plans for a "dealer assistance" program aimed at consumers across the country.

Kisco will make use of giant 30-in. by 22-in., three-color newsprint broadsides bearing the dealer's imprint, which will be available to the dealer without cost.

Backing this promotion, Kisco will place national advertising in *Life*, *Saturday Evening Post*, *Better Homes and Gardens*, *Country Gentleman*, and other publications with over 15 million circulation. Radio and television time will also be used in the promotion.

Another feature of the program is a free brochure, "Bouquets of Profits," which contains helpful sales ideas. It is available to any dealer upon request.

M-H Service Conclave for East Opens In N.Y. Jan. 11

MINNEAPOLIS—Key service and installation managers and representatives of the eastern region for the Minneapolis-Honeywell Regulator Co. will convene at New York's Belmont Plaza hotel Jan. 11 and 12 for the company's second annual servicing conference.

The company's Canadian subsidiary at Toronto will be represented for the first time.

The two-day meeting will feature discussions of improved techniques for service and installation of Honeywell's diversified line of some 8,000 automatic controls, indicating and recording instruments.

Schreiber Takes on Added Assignment at Philco Corp.

PHILADELPHIA—O. O. Schreiber, who has been with Philco for the past 17 years and during the past year has been assistant secretary, has also been appointed assistant to the president, it was announced recently by William Balderston, president of Philco Corp.

Schreiber will continue to act as assistant secretary and secretary of the two management committees in his new post as assistant to the president, and he will also assist the president and executive vice president in special assignments, Balderston said.

Refrigeration Problems and their Solution

by Paul Reed

For Service and Installation Engineers

Mixing Water Vapors & 'F-12' Vapors (2)

We have demonstrated that two gases can occupy the same container at the same time, and that each follows its temperature-pressure law just the same as if the other were not present at all.

Although it sounds impossible, a 1-cu. ft. container can hold 1 cu. ft. of "Freon-12" gas and 1 cu. ft. of water vapor at the same time. Their molecules mix and occupy the spaces between the molecules of the other.

Each of the two, the "Freon-12" vapor and the water vapor, will have its own pressure, which depends upon its temperature; and each will have its own density, that is, how much of the gas there is by weight, in the container.

On the other hand, a gauge on the container would read the total pressure, which would be the pressures of the two gases added together.

Last week we had a 1-cu. ft. container at 0° F., filled with a mixture of saturated "Freon-12" and saturated water vapor. (Water vapor exists at 0°, or at other temperatures below freezing, just as it exists above freezing.) The gases were saturated but there was no liquid present; neither liquid "Freon-12" nor water.

The "Freon-12" had a pressure of 23.9 p.s.i.a. (9.2 p.s.i. gauge) and a density of .6109 of a pound per cubic foot. The water vapor had a pressure of approximately .02 (1/50) of a pound per square inch absolute (29.883 in. of mercury vacuum), and a density of .000068 of a pound per cubic foot.

There was .610968 of a pound of the mixture (.6109 + .000068) in the container, and the total pressure was 23.92 p.s.i.a. (23.9 + .02).

COOLING FROM 0° TO -20° F.

Suppose that we cool this mixture from 0° to -20°. As soon as the temperature drops below 0°, some of the "Freon-12" vapor and water vapor will start to condense, and the individual pressures of both the "Freon-12" and of the water vapor (these are called their "partial" pressures) will drop, so consequently their combined or "total" pressure will drop.

When we get the temperature down to -20°, the "Freon-12" pressure will have dropped to 15.3 p.s.i.a. (.6 p.s.i. gauge), and at -20° the pressure of the water vapor will have dropped to .006 of a pound per square inch absolute (29.908 in. of mercury vacuum).

So the "Freon-12" pressure will have dropped to a little more than one half what it was at 0°, and the water vapor pressure will have dropped to less than one third of what it was at 0°.

At the same time, that is, at a temperature of -20°, the density of the "Freon-12" vapor will have dropped to 4042 of a pound per cubic foot. The difference in densities, .2057 of a pound, will have condensed out into liquid "Freon-12" in the bottom of the cylinder.

Also at the same time, the density of the water vapor will have dropped from .000068 to .0000

North or South, Cooling Serves

NORTH: Year-Round System To Condition 8-Story Trade Center In Finland

NEW YORK CITY—What is claimed to be the world's northernmost air conditioning installation of its kind is to be supplied by Carrier Corp. for the eight-story headquarters building of the Industricentrum AB now under construction in Helsinki, Finland.

Helsinki is situated at 61° north latitude, about the same as Anchorage, Alaska, but enjoys milder weather, with a 21.4° average in January and a 63.8° average in July. The system will be for year-round operation—heating and ventilation in winter, and evaporative cooling in summer.

The first six stories of the building, a center for promoting Finland's domestic and export trade, will be serviced by the initial European installation of Carrier's "Conduit

Weathermaster System," which distributes conditioned air under pressure through small, space-saving conduits. There will be a Weathermaster unit under each of the windows, permitting individual control regardless of how offices are partitioned.

Sixty hotel rooms for the accommodation of foreign guests on the seventh floor, and restaurants occupying the top floor, will be air conditioned by a conventional duct system. The building is scheduled for completion in March, 1952, and will be a focal point of activity for the 1952 Olympic games.

E. Thurmans-Andersen, Carrier's representative in Scandinavia, negotiated the contract, which is to be completed by Christian Berner OY, the company's distributor in Finland.

SOUTH: Conditioned Greenhouse Enables Growing of Rare Orchids In Fla.

VERO BEACH, Fla.—Many attempts have been made in this country to grow Odontoglossum orchids—an extremely rare type native to the high altitudes and low temperatures of the Andes Mountains in South America.

But hot summer weather has doomed the attempts to failure—except in the case of McKee Jungle Gardens here. With the help of air conditioning, the Gardens has turned the trick.

Use of two 7½-hp. Worthington condensing units enables the Gardens to maintain a mountain atmosphere in which the spray orchids will grow. In addition, air conditioning has been of assistance in effecting several complicated hybridizations.

In the future, the Odontoglossums will be "air conditioned" back to the outdoors. In this process, the plants will be made to adapt themselves to the normal outdoor climate of Florida through scientifically-plotted temperature changes.

Like the Odontoglossums, all orchids which the McKee Jungle

Gardens obtains—and they are delivered from all parts of the world—must be put in artificially-prepared atmospheres to keep them alive. And it takes seven years before they are fully developed.

In the Gardens' air conditioned greenhouse, which measures 50 ft. long and 10 ft. wide, the temperature varies 20 to 25° from day to night. Night temperature in the orchid house is held at a constant 45° and in the daytime is allowed to rise to 70°. The relative humidity varies, but it is not permitted to go over 80% or under 60%.

McKee Jungle Gardens, which covers an area of 80 acres, is owned by Arthur G. McKee. McKee has grown several hybrid orchids in greenhouses and has developed new strains under controlled temperatures.

He has developed some of these to the point where they can live outdoors in the Garden area the year-round. Many rare types of orchids, however, must be kept in an air conditioned atmosphere all the time.

Brown Contest Seeking Ideas on How To Color, Push Prosaic Products

PHILADELPHIA—How can a prosaic industrial product be made colorful? And when the drama and color are added, how can the prosaic be promoted by new business-getting methods?

This problem, faced by many suppliers of manufacturing and processing equipment and control components, is being tackled by the Brown Instruments division of Minneapolis-Honeywell Regulator Co. Briefly, this is what will happen:

Honeywell-Brown customers will be asked to submit details covering the application of non-indicating industrial control devices on specific and knotty processing and maintenance problems. Each month, eight to 10 awards will be made to those users of Honeywell products who submit outstanding ideas.

The awards will be based on general usefulness of the ideas in promoting more widespread economy, quality, and other advantages. Each winner will receive a Chronotherm, a well-known Honeywell thermostat. The winning ideas will be published in monthly bulletins which will be mailed to about 50,000 process engineers in different industries.

To further promote the whole plan, the company will use display advertising which will appear in various business publications.

In making known details of the plan, John B. Moxness, industry engineer, said the contest will be operated on a plan which will keep it from becoming "too serious." Some unusual acknowledgement will be provided for each entrant.

Fla. Firm Orders Conditioning

JACKSONVILLE, Fla.—A. L. Clayton Co. has the contract for construction of a new warehouse and office building at Fourth and Clark Sts., Springfield, for J. N. David & Associates. Offices and display rooms will be air conditioned.

Pick Tressler To Direct Research, Development For Quartermaster Unit

CHICAGO—Dr. Donald J. Tressler, formerly consulting food technologist and head of Donald K. Tressler and Associates of Westport, Conn., has been appointed scientific director of the Quartermaster Food & Container Institute for the armed forces.

Dr. Tressler, who is considered to be an authority on the freezing of foods, has authored a number of books and articles on the subject. He holds 17 U. S. Patents and several foreign patents on foods, food by-products, and miscellaneous products. One of his most recent patents covers a method of making a tea concentrate.

Dr. Tressler is also a fellow of the American Society of Refrigerating Engineers.

In his new post, Dr. Tressler will direct the research and development program of the Quartermaster Corps on foods and the packaging and packing of foods and other items of Quartermaster supply. He has previously served on the advisory board of the research and development branch of the Quartermaster Corps.

New Ga. Motel To Be Cooled

ALBANY, Ga.—J. W. Hogg and Al Mabry, two Atlanta businessmen, have begun construction of a \$200,000 motel on the Slappy Drive-Atlanta highway. Named the Al's Motel, the project will include 30 units, all air conditioned for summer and winter.

Difficulties, Advances In Control Systems For Air Conditioning Described by Vernon

CHICAGO—Air conditioning is a means of accomplishing a physiological effect. Normally heat generated within the human body maintains the body temperature above that of the surrounding air so that heat is lost from the body by convection, radiation, and evaporation. Air conditioning permits body heat production to be balanced by heat loss.

This definition served to introduce a talk on the effectiveness of proper controls for air conditioning, given at the Oct. 9 meeting of the Illinois Chapter, American Society of Heating & Ventilating Engineers, by J. R. Vernon, secretary and sales promotion manager, Johnson Service Co., Milwaukee.

Limiting much of his talk to control systems where individual room controls are used in conjunction with master controls, the speaker used slides to show basic hook-ups for bellows, disc, and bimetal thermostats.

In his discussion of thermostats of the bulb and capillary tubing type, he explained the difficulties encountered with the vapor tension thermal system, showed how the gas filled system is an improvement, and stated that the liquid filled system is the easiest to calibrate and to compensate for temperature effects on the tubing.

Control systems were broadly classified as to direction of action (direct or reverse acting) and as to type of action (two position or proportional). It was shown that a too-

sensitive controller can give very poor results, as can an under-sensitive controller.

The cure for the latter was said to be an instrument which permits sensitivity adjustment, and Vernon showed how the sensitivity of various controls may be changed.

In his opinion, the proportional action type of instrument with sensitivity control and automatic reset is making air conditioning controls extremely effective.

Another forward step has been the development of special type valve discs which provide a relatively wide throttling range. Also noteworthy are the packless valve and V ring packing, Vernon said.

Bert Cole Rejoins Philco as District Sales Representative

PHILADELPHIA—Bert Cole, who was a member of the Philco organization in New York from 1934 to 1938, has rejoined the company as district sales representative for the New York-Newark area, it was announced recently by John M. Otter, vice president and general sales manager of Philco Corp.

Cole joined Philco Distributors, Inc., New York, the company's wholesale organization in that area, as a salesman in 1934 and served in that capacity for four years.

Since 1944 he has been general manager of Crosley Distributing Corp.

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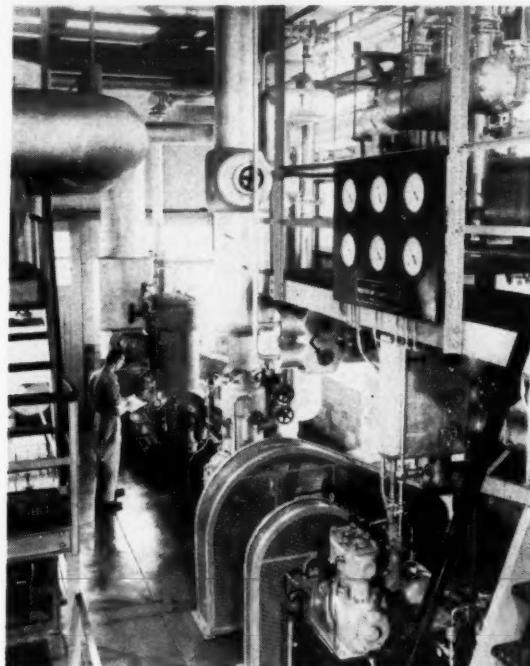
1-1-51



IT'S -50° in the testing room as Wilson Gingerich dictates data on the test being conducted in this low-temperature chamber at Caterpillar Tractor Co. in Peoria, Ill.



NOT SO here, as Mary Lou Cavanaugh, in comfortable surroundings, records the information she receives from the cold room over the two-way communication system.



OPERATOR, Clyde Tobias, checks the equipment that furnishes the refrigeration.

Caterpillar Tractor's Huge Low Temperature Testing Laboratory Has Intricate Controls

PEORIA, Ill.—Two cold rooms, one big enough to accommodate its largest machinery, have been placed in operation by Caterpillar Tractor Co. here to subject equipment to tests over a range of -65° to 30° F.

They are designed to permit machinery to be tested under conditions found in the coldest parts of the world, and were under construction for two years.

The large cold room has floor dimensions of 21 ft. by 34 ft. and a ceiling height of 22 ft. 9 in. The overhead bunker containing the cooling coils, together with overhead traveling hoists, reduce the free ceiling height to 11 ft. 9 in. The floor dimensions of the small cold room are 13 ft. 2½ in. by 8 ft. 1 in., with a room ceiling height of 15 ft. and a free ceiling height below drip pans under the cooling coils of 9 ft. 8 in.

Vestibule Minimizes Heat And Moisture

The large vestibule which is 19 ft. 6 in. long by 9 ft. wide is used as a tempering chamber or air lock to permit moving engines and other such assemblies in and out of the large cold room with a minimum admission of heat and moisture to the atmosphere of the room.

For moving tractors or other large equipment in and out of the large cold room, a Jamison double door having a clear height of 11 ft. 10 in. and width of 12 ft. is provided. The doors are closed pneumatically. Strip heaters are arranged in the gaskets all around the periphery of the door sections so that the door may be defrosted prior to opening after a long run at low temperatures.

The small vestibule is 8 ft. 4½ in. by 7 ft. 5¼ in. It is used as an air lock for personnel entering either of the cold rooms and for equipment moved in and out of the small cold room.

Adjacent to the cold room is the machinery room. This is 45 ft. 1 in. long by 18 ft. 1 in. wide and has a ceiling height of 27 ft. and a clear height under the traveling hoist of 20 ft. 9 in.

Building Within a Building

The cold rooms are essentially a building within a building, that is, all of the cold room side walls, exterior above ceilings as well as sub-flooring, are clear of the building which houses these facilities. There is a clearance space of at least 3 ft. between all outside cold room walls, the building walls, the building roof, and the building basement flooring.

The general construction of the cold rooms started with a pit which was excavated 10 ft. below ground level. A 10-in reinforced concrete floor slab was then poured together with the reinforced concrete basement walls. On the floor of this pit a group of reinforced concrete cells 3 ft. high supporting an 8-in. reinforced concrete slab was erected for the section under the large cold room.

Under the small cold room the cells are of similar construction but 6 ft. 3 in. high. This difference in elevation provides for a cellular concrete floor arrangement in the large cold room and in which is arranged a large spring suspended weighted engine base.

A 15-in. layer of Foamglas insulation in three layers, each 5 in. thick was then placed on top of these two concrete slabs or sub-flooring sec-

tions. The two cold rooms were then built completely resting on this insulation.

The construction of the cold walls in general consists of an inner ¾-in. layer of reinforced cement plaster, two 4-in. layers of corkboard, and a ¾-in. layer of reinforced cement plaster. An outer 3-in. layer of Foamglas has a mastic finish on the exterior and serves as a moisture barrier.

Insulation Bonded with Hot Asphalt

The ceiling is of the same construction being mounted on galvanized deck sections which are supported by the same structural steel framing which reinforces the side walls. A ½-in. thick layer of asphalt paving slabs covers the top surface of the ceiling insulation. All sections of corkboard, Foamglas, and asphalt slabs were bonded with hot asphalt. The insulation construction was installed by the Armstrong Cork Co.

The refrigeration compressors for the large cold room include one 7½ by 7½ two-cylinder, single-acting, vertical, enclosed ammonia compressor, and one 15 by 10 two-cylinder, single acting, vertical enclosed booster compressor. These are driven by two-speed electric motors rating 60/30-hp. at 1,200/600 r.p.m.

For the small cold room the compressor equipment includes one 4 by 4 and one 6 by 6 two-cylinder, single-acting, vertical, enclosed ammonia compressors. The 4 by 4 compressor is driven by 7½/3¾-hp. 1,800/900 r.p.m. electric motor and the 6 by 6 compressor is driven by 25/12½-hp. 1,800/900 r.p.m. electric motor.

Each Room Has Own System

The refrigeration systems for the large and small cold rooms are complete and separate systems. Each may be operated single stage or two stage and may be controlled manually or automatically. They are so interconnected that any of the three smaller compressors can be used as pump-out for any of the three refrigeration systems.

The refrigeration system for the coolant is so interconnected that a compressor may be disconnected from either of the cold room systems for use with the coolant refrigeration system. It then can be operated independently, either under manual or automatic control.

Coolant Pumps, Sump Tank Located In Basement

In the machinery room are the ammonia gas coolers, liquid and gas coolers, low pressure ammonia receivers, and oil separators for the refrigeration systems for the two cold rooms. Common to the three systems are the shell-and-tube type condenser and high pressure liquid ammonia receiver. Also included are the liquid ammonia recirculating pumps, the various controls for the refrigeration systems and a switchboard. In the basement are the coolant pumps and the coolant sump tank.

The refrigeration system for the large cold room is of the liquid recirculating type with two duplicate automatically controlled liquid ammonia recirculating pumps, one serving as a stand-by under normal operating conditions. The recirculating pumps take suction from a vertical low pressure liquid ammonia receiver

and deliver liquid ammonia through control valves into 50 expansion coils. These coils are arranged in four coil-groups having separate liquid headers to permit manual adjustment of the refrigeration capacity.

The system includes protection devices for unsafe pressures and electrical and water supply failures. It is so arranged that upon stopping of the recirculating pump, the liquid ammonia in the overhead expansion coils in the large cold room will drain back to the low pressure liquid ammonia receiver. Connected with this cooling system are two additional overhead expansion coils for tempering the air in the large vestibule. This is arranged with manually operated stop valves and a magnetic liquid stop valve controlled electrically from a thermostat to maintain the desired room temperature.

The expansion coils for the large cold room are suspended from the structural steel framing in the room. The expansion coils consist of 1¼-in. pipe and have a combined length of 21,600 ft.

Control for Liquid Ammonia Level Is Automatic

The refrigeration system for the small cold room is arranged with a flooded evaporative coil system having a gravity liquid feed from a surge drum. The liquid ammonia level in the liquid header for the expansion coils is controlled by an automatic float control valve located in the machinery room.

The cooling coils in the small cold room consist of 2,500 ft. of ¾-in. piping and are arranged in three individual coil assemblies. This expansion system is suspended from the structural steel framing of the small cold room. This system has the same protective features and in general the same control features as that of the large cold room system.

The air in the cold rooms is circulated by means of two ventilating fans which are located over-head adjacent to the expansion coils and in each case are driven by common shafting extending through the side walls to the motors. The motors are of the four-speed type. Under the expansion coils in each of the cold rooms are drip pans. These are constructed of bolted sections which can be removed to provide access to the expansion coils.

Control Sensitivity of 0.2° F. Provided

An independent indicating electric temperature control device including a copper constantan thermocouple is provided for each cold room. These have a sensitivity of 0.2° F. above or below any set control temperature. In both cold rooms the temperature pickup is located in the intake side of the air recirculating fans.

For the coolant refrigeration system, a thermostat having an adjustable control differential in the range of 1° to 5° F. above or below any set control temperature in the range of -10° F. and +50° F. is provided. This thermostat is located in the outlet piping from the shell and tube-type coolant cooler.

The refrigeration systems for the two cold rooms are designed for normal automatic temperature control in the range of -60° F. and 30° F. In this range they have a temperature regulation control at the

point of the temperature pickup within the limits of 0° above or below any set control temperature, after establishment of fairly steady load, the refrigeration equipment and air circulation rate having been adjusted to provide a refrigerating capacity roughly approximating the refrigeration load.

While designed for operation at temperatures down to -60° F., it is interesting to note that the rooms have been operated down to -74° F. under automatic control during an acceptance test, according to Caterpillar.

The coolant refrigeration system is designed for normal automatic temperature control in the range of -10° F. and 45° F. and in this range has a temperature regulation control within two degrees of any set control temperature. The refrigeration equipment of York construction was installed by Westerlin and Campbell Co.

Laboratory Personnel Get Physical Exams

Scientists and technicians in the laboratory are given medical examinations prior to taking up cold room activities. This is a routine precaution to insure proper health protection of personnel working at low temperatures.

Air Force-type flying suits, electrically heated, are worn and exposure to the cold is limited to from two to four hours depending on the temperature and project under study. A two-way sound system eliminates the need for taking notes or writing inside the room. Instead the observer inside merely communicates his message to a co-worker in comfortable surroundings outside.

While frost can readily be produced, most of the time the rooms are kept in a defrosted condition. For that reason the casual observer looking through the heavy five-pane windows of the cold room sees little of anything to indicate extreme coldness.

Kinney & Faust Celebrates Fifth Year by Expanding

FRESNO, Calif.—E. Edward Faust, co-owner and resident manager of Kinney & Faust, appliance distributorship covering a six-county area in the San Joaquin valley, announced that the firm recently celebrated its fifth anniversary in business by moving into larger quarters.

The move took the firm from 1717 Van Ness Ave. here to 1740 Van Ness Ave. It increased the floor space available from 5,250 sq. ft. to 11,700 sq. ft.

Faust also announced that Lee Lehman has been named sales manager for the firm.

Wendell H. and Roland T. Kinney of Los Angeles are the other two co-owners of the concern.

Dealer Spends \$3,000, Moves Up Three Numbers

MIDVALE, Utah—Lewis A. Dahl Appliance Co. has opened at a new location, 73 N. Main St., here. It formerly was at 70 N. Main St.

More than \$3,000 was spent re-decorating the firm's new store. Lewis A. Dahl, owner and manager of the store, has been in the appliance business 14 years.

Water Works Group Drafts Ordinance--

(Concluded from Page 1, Column 4) out by the water engineer and his legal adviser in cooperation with local refrigeration equipment representatives. The 'model' form provided contains a wealth of ideas, each section of which should be considered and modified or adopted as local circumstances dictate."

Study of the committee, it explains, "is being confined to two classes of water systems. One class consists of those where the source of supply is inadequate or approaches inadequacy, with little hope of augmenting it economically. This matter involves natural resources and represents a situation which is either desperate now or promises to become so."

The second class comprises those water systems with a source of supply which is presently adequate and will not become a problem at some future date, but where some link in the chain of physical plant facilities will be jeopardized if air conditioning and other refrigerating loads are not controlled. . . .

"For the first class mentioned above, immediate restrictions on use are the only answer. For the second class, restrictions on use are not suggested; rather, through measures for conservation and the elimination of waste, the public utility should keep the demands within such economic limits that, if inadequacy approaches, augmentation of the physical plant facilities may be financed by the revenue received from the

customers creating this inadequacy. . . .

"The committee feels that in demand charge lies the solution to many problems of the water industry. The institution of a demand charge to be applied to any commercial or industrial installations the character of whose load would justify such an approach, would solve not only the economic problem presented by refrigerating demands, but that of all other installations where short peak demands create a similar difficulty. If the demand charge is the answer, it will remove the grounds for an accusation of discrimination."

Opinion varies as to the proper basis for such demand charges, the committee admits. One approach would be a fixed charge based on the size of the meter, in addition to consumption charges. A second method would be use of a demand meter, but as yet no such meter has been satisfactorily developed. Still a third solution would be to place air conditioning and refrigeration on a special rate applied to all accounts operating on a low load factor.

"The end result of any of the above methods, if rates are properly based, would be to encourage the installation of water conservation equipment, thereby reducing water costs. Even if water conservation equipment is not used, the customer will be paying on a basis that makes such an account economically desirable to the utility," states the committee.

Complete Text of 'Model Ordinance' To Aid In Water Conservation

WHEREAS, the operation of water-cooled refrigeration and other equipment for changing the dry-bulb temperature or the humidity of air has rapidly increased and now involves the use of water in quantities never before anticipated, thereby placing unexpected burdens on the public water supply system which are detrimental to other water services.

AND WHEREAS, in the interest of the public and its water supply system, it is necessary to regulate the use of water for such purposes and to require conservation of water and elimination of waste,

NOW, THEREFORE, BE IT RESOLVED, that the following regulations shall apply to all water-cooled equipment installed for the purpose of reducing the dry-bulb temperature or decreasing the absolute humidity of air, whether for comfort air conditioning, refrigeration, processing, or whatever other purposes;

SECTION 1.—DEFINITIONS:

For the purpose of these regulations, the following terms shall have, and shall be construed to have, the following meanings:

(a) The terms "Air Conditioning System" and "Refrigeration System" shall include any combination of equipment, whether compressor or other type, by which heat is removed from the air and from which the accumulated or effluent heat is wholly or partially removed by the use of water.

(b) "Air Conditioning System" shall mean an installation for maintenance, by heat removal, of temperatures which are not less than 60° F.

(c) "Refrigeration System" shall mean an installation for maintenance, by heat removal, of temperatures which are less than 60° F.

(d) "System" shall mean any combination of apparatus, individual unit, group, or collection of units supplied with water through any single customer service pipe connected to the public water system.

(e) "Person" shall mean and include a natural person, partnership, corporation, or association. Whenever used with respect to any penalty, the term "person" as applied to partnerships or associations, shall mean the partners or members thereof, and as applied to corporations, the officers thereof.

(f) "Superintendent" ("Commissioners," "Director," or other title) shall mean the chief officer of the (name of water utility) or such officer or agent as he shall duly authorize to act in enforcement of these regulations.

SECTION 2.—PERMIT REQUIRED

No person shall install, operate or use any equipment for air conditioning or refrigeration which requires a supply of water from the system of the (name of water utility) without first having procured written permit therefor from the Superintendent.

SECTION 3.—APPLICATION FOR PERMIT

3.1. Application for permit shall be made to the Superintendent and shall provide the following information:

(a) Name and address of the applicant
(b) Location of the premises where installation is proposed

(c) Name and address of the owners of the premises

(d) Names of manufacturers of the units requiring water

(e) Manufacturer's identification and classification of the refrigeration units

(f) Manufacturer's rating of maximum refrigerative capacity of the unit or units under the conditions of the planned installation. Rating may be stated in tons per 24 hours or in B.t.u. per hour

(g) Horsepower of compressor prime mover, if unit is of compressor type

(h) Where water conservation devices are required (to comply with Sec. 7 hereof), the manufacturer's name, identification, classification, and size of the conservation equipment

(i) Elevation and plan showing general piping arrangement and details of all points of connection to building supply water piping (Piping direct to condenser units, makeup supply into tower pan, and so forth)

(j) Such additional information as shall be required by the Superintendent.

3.2. Applications shall be signed by the owner or tenant, and applications for installation shall designate plumber duly qualified to receive permits under other sections of these regulations.

NOTE: For the purposes of these regulations, in no event shall the rated capacity in tons be considered less than the following:

(1) Total maximum B.t.u. per hour of capacity of the installation divided by 12,000; or

(2) The nameplate horsepower of any compressor prime mover unit for any air conditioning installation; or

(3) Two thirds the nameplate horsepower of (2) above for any refrigeration installation.

In the absence of the required manufacturer's maximum rating (Sec. 3.1 (f) above), the Superintendent may specify the tonnage of the installation at the ratings indicated by (1), (2), or (3) above; or, if these appear inadequate, then by whatever other measure of capacity appears to him to be proper.

(Note: In using methods (2) or (3) above, the Superintendent must realize that, for purposes of evading some restrictions recited herein, the motor may purposely be improperly sized or erroneous ratings may be stated. Therefore, the inspector must be satisfied of proper sizing or rating when using these methods.)

SECTION 4.—FEE FOR PERMIT

A fee shall be paid, at the time of application for a permit, to cover one inspection of the installation. The fee shall be dollars, plus ... cents per ton of capacity. For each additional inspection required because of condemnation of work, or because of premature request for inspection, an additional charge shall be made, equal to seventy-five per cent of the original fee.

(Note: The amount of fees under this section should be determined by the local water utility, based upon local costs incurred in comparable inspections.)

SECTION 5.—PERMIT TO INSTALL

5.1. Permits to install piping or connecting equipment will be issued at (title and address of permit-issuing office) but only in the names of licensed and bonded plumbers who are duly registered to perform plumbing work within the area of the premises involved, or to plumbers in the employ of the municipal, state, or federal governments for premises in their respective charge.

(Note: If the municipality does not require plumbers to be bonded or licensed or registered, it is recommended that the same standards already in use in the locality be adopted in the above section.)

5.2. Within 48 hours following the completion of any work authorized by permit, notice of completion and request for inspection shall be returned in writing, by the plumber receiving the permit, to the office from which the permit was obtained.

SECTION 6.—PERMIT TO OPERATE

After final inspection and approval of the installation, a permit to operate or use the equipment will be issued at (title and address of permit-issuing office) in the name of the owner or tenant.

Government Contracts

PROCUREMENT INFORMATION

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request to the purchasing office under which the purchase is listed in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date. This will save time in filling your request. For reasons of economy, specifications are normally not included with the bid invitations unless the specification is a new one. First time bidders on a particular item should request a copy of applicable specifications and drawings at the time the request for a bid set is made.

DEPARTMENT OF DEFENSE

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Picatinny Arsenal; Raritan Arsenal; Rock Island Arsenal; Springfield Armory; Watertown Arsenal and Watervliet Arsenal. Complete information on any purchase listed by any of those offices alone can be obtained from the Ordnance District Office nearest you. Its address is on file in your nearest Department of Commerce Field Office. Do not ask an Ordnance District Office for information on a purchase unless it is listed by one of the above-named offices. Ordnance District Offices do not have information on any other purchases.

Description

Quantity

Invitation No.

Opening Date

Commanding Officer, Frankford Arsenal, Procurement Office, Philadelphia, Pa.,

Belts, Vee 50 items 439 12 Jan 51

Unit, Air Conditioning 1 ea 447 16 Jan 51

Yards and Docks Supply Office, Port Hueneme, Calif.

Attn.: Procurement Div. Panel, Air Filter, Size 20" x 4" 300 ea 20453 4 Jan 51

Navy Purchasing Office, 111 East 16th St., New York City

Humidity Indicating Recorder 1 ea 7995 9 Jan 51

Desiccant 43,000 lb 7929 10 Jan 51

Tetrachloroethylene 28,250 gal 7931 10 Jan 51

Electronic Supply Office, Building 2-B, Great Lakes, Ill.

Fan, Propeller Blades, Equal to No. 100129 Rev-A and No. 100177 50 ea 1546 9 Jan 51

Chicago Quartermaster Depot, Quartermaster Purchasing Division, Chicago, Ill.

Common Parts Standardized 35,924 ea 1264 8 Jan 51

Parts Refrigeration 7,044 ea 1286 8 Jan 51

Parts Refrigeration Mechanical Kitchen Equipment

Bain Marie Heavy Duty Hotel Type

54" x 36" Steam 15 ea 1430 15 Jan 51

72" x 36" Gas Manufactured 25 ea 1430 15 Jan 51

72" x 36" Bain Marie Heavy Duty Hotel Type

54" x 36" Electric 15 ea 1430 15 Jan 51

54" x 36" Gas Manufactured 15 ea 1430 15 Jan 51

54" x 36" Gas Natural 15 ea 1430 15 Jan 51

72" x 36" Gas Natural 15 ea 1430 15 Jan 51

72" x 36" Steam 15 ea 1430 15 Jan 51

Table Steam Heavy Duty Hotel Type

61" x 28" Gas Manufactured 15 ea 1430 15 Jan 51

61" x 28" Steam 10 ea 1430 15 Jan 51

75" x 28" Gas Manufactured 10 ea 1430 15 Jan 51

Commandant of the Marine Corps, Washington, D. C.

Attn.: Supply Department, Procurement Section

Coolers, Drinking Water 900 ea 764 11 Jan 51

Bubbler Style Coolers, Drinking Water 150 ea 764 11 Jan 51

Cafeteria Style

Commanding Officer, Chemical Corps Procurement Agency, Army Chemical Center, Maryland

Brine Cooling System, Furnished and Installed at Camp Detrick-Frederick, Md.

Commanding Officer, Marietta TC Depot, Marietta, Pa.

Attn.: Central Procurement Agency

Tubing, Copper, Soft 4,000 ft 228 23 Jan 51

SECTION 7.—WATER USE AND CONSERVATION

7.1. Systems with a capacity of tons (per 24 hours) or less shall not use water directly (or indirectly, except when used with conservation equipment) from the public supply.

(Note: The local utility should determine the limits as may be found most suitable to local conditions. Air-cooled units up to 3-ton capacity have been found practical if conditions of installation afford passageway for the proper volume of cooling air to and from the condenser.)

7.2. Systems with a total capacity of more than tons (per 24 hours) but not exceeding tons (per 24 hours) may use water directly from the public supply, at a rate not exceeding 2.0 g.p.m. per ton if the water temperature is 75° F. or less, or 3.0 g.p.m. per ton if it is above 75° F., provided they are equipped with an automatic regulating valve which will (1) stop the flow of water when the refrigerating machine is shut down and (2) throttle the flow of water down to the momentary requirements of the condenser.)

(Note: The first blank in Paragraph 7.2 is to be filled in using the same value as was decided upon in Paragraph 7.1 of this section. The value used for the second blank must again be determined by local conditions. It has been found that 5 or 5.5 tons is the most generally accepted limit. Whether the dividing line between conservation and no conservation is to be lower or higher than the stated 5 or 5.5 tons is entirely a local problem, which must be solved according to the facts existing in each individual community.)

7.3. All systems having total capacities exceeding tons (per 24 hours) shall be equipped with evaporative condensers, cooling towers, spray ponds, or other water-cooling equipment. This equipment shall be of sufficient capacity to insure conformance with the requirements in Table 1 for makeup water when operating under full loading at maximum summer temperatures:

(Note: The blank in the first sentence of Paragraph 7.3 is to be filled in using the same value as was decided upon for the second blank in Paragraph 7.2.)

Table 1—Maximum Allowable Water Use

Water Hardness	Max. Use
p.p.m.	g.p.m./ton
0-139	0.1
140-199	0.15
200-254	0.2
255-339	0.3
340-424	0.4
425 and over	0.5

SECTION 8.—SANITARY PROTECTION

8.1. On installations which operate with the use of water directly from the public supply system, every direct connection shall be equipped with a suitable brass-

GENERAL SERVICES ADMINISTRATION

Description

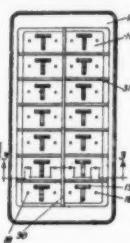
Quantity

Reference No.

PATENTS

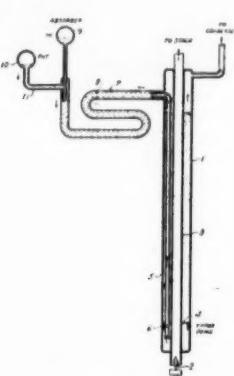
Week of July 11
(Continued)

2,514,942. PERSONALIZED ICE CUBE MOLDER. Elmer F. Eaton, Aberdeen, Md. Application Aug. 1, 1949, Serial No. 107,954. 2 Claims. (Cl. 62-108.5.)



1. An insert for ice-cube trays consisting of a flat surface having a raised embossing thereon forming a selected design, said insert being adapted to lay with its flat face on the bottom of the ice tray with its embossing upwardly, whereby the design will appear on the side of the ice cube formed in the tray, said flat surface having spaced openings therein outside the contour of the embossing to permit insertion therein of instruments to remove the insert from the ice cube with which it is associated.

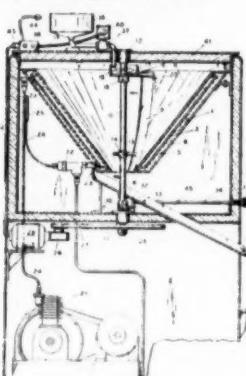
2,515,081. CIRCULATING MEANS IN ABSORPTION REFRIGERATION. Walter L. Edel, Detroit, Mich., assignor to Clayton & Lambert Mfg. Co., Detroit, Mich., a corporation of Delaware. Application April 15, 1946, Serial No. 682,146. 5 Claims. (Cl. 62-119.5.)



In a continuous absorption refrigeration system of the equalized pressure type, the combination of a generator, a heater therefore located at one end of the generator thereby providing a hot zone at this end of the generator and a cooler zone at the other end of the generator, an absorber, tubing connecting the bottom of the absorber with the cooler end of the generator, a vapor collector located within the generator at the hot end of the generator, and a vapor lift tube and condensing means passing from said collector through the generator and thence out of the cooler end of the generator to the top of the absorber, the said vapor lifting tube affording a continuous mixed liquid and gas stream flowing from the hot end of the generator, without vapor and liquid separation, directly to the upper end of the absorber, said stream in the tube passing through the cooler rich liquor coming from the absorber thereby to condense and absorb the vapor as the liquid stream passes to the absorber.

REISSUES

23,247. FLAKE ICE MAKING MACHINE. Floyd A. Bigby, Portland, Oregon. Original No. 2,490,324, dated Dec. 6, 1949, Serial No. 649,971, Feb. 25, 1946. Application for reissue March 16, 1950, Serial No. 150,099. 7 Claims. (Cl. 62-107.)



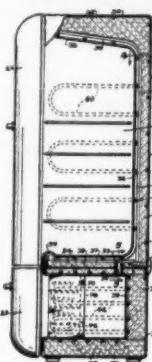
7. A flake ice making machine, including a container, an inverted conical refrigerating element supported in the container, means for delivering the refrigerant to the outer surface of the refrigerating element, means for delivering the fluid to be frozen onto the [outer] inner surface of the refrigerating element, means for scraping the frozen material from the inner surface of the refrigerating element and manually operable means for adjusting the position of the scraping means to vary its scraping contact.

Week of July 18

2,515,912. REFRIGERATING APPARATUS. Whitney Giffard, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application July 24, 1947, Serial No. 763,431. 9 Claims. (Cl. 62-116.)

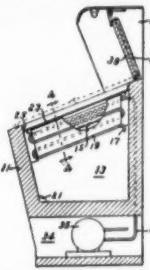
3. Refrigerating apparatus comprising a cabinet casing, a cabinet liner forming a food storage compartment, a second cabinet liner forming a freezing compartment, insulation interposed between said liners and between said liners and said casing, a relatively high temperature refrigerant evaporator attached to the outer surface of said first liner, a relatively low temperature refrigerant evaporator attached to the outer surface of said second liner, refrigerant condensing means operatively connected to said refrigerant evaporators, a baffle member interposed between said liners, and a passage

through said baffle and through said second liner establishing communication



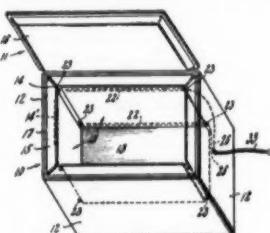
between said relatively high temperature evaporator and the interior of said freezing compartment.

2,515,285. REFRIGERATED DISPLAY CASE AND REFRIGERATED PARTITION. Nicholas Achs, Detroit, Mich. Application June 17, 1946, Serial No. 677,151. 4 Claims. (Cl. 62-89.5.)



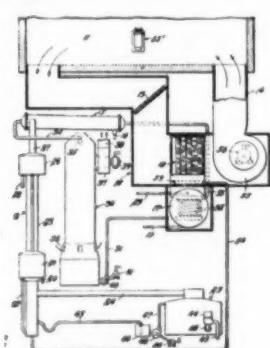
1. A refrigerated vegetable display case comprising, thermal insulating wall means forming a cabinet having an open top sloping forwardly, refrigerated partitions in said cabinet in vertical positions and extending from back to front of the cabinet at suitably spaced positions to provide separated storage bins, the upper edges of said partitions being inclined toward the front of the cabinet, a plurality of display containers of suitable sizes and shapes removably mounted above the respective storage bins, said display containers having laterally extending edges, means receiving said edges and supporting the containers along the forwardly inclined tops of the refrigerated partitions, and said display containers being made of thermally conductive material.

2,515,294. FREEZING UNIT DEFROSTER. William W. Cowgill, Fairfield, Conn., assignor to United States Rubber Co., New York, N. Y., a corporation of New Jersey. Application June 18, 1947, Serial No. 755,401. 4 Claims. (Cl. 219-19.)



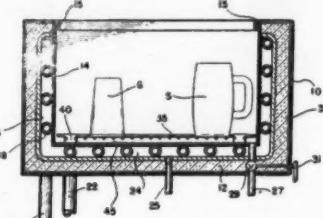
1. In a low temperature box having a freezing compartment, top, bottom and side walls enclosing said compartment and upon which a layer of ice-forming frost tends to accumulate, a defrosting unit comprising a flexible heating sheet adhesively secured to one face of at least one of said walls so as to cover a large area of such face and heat this area approximately uniformly to free it from the layer of ice, including a plastic sheet having electrical conductivity and spaced current supply conductors attached thereto so that this sheet will generate heat substantially uniformly over its surface when a difference in electric potential is maintained between said conductors and heat the wall to which it is secured.

2,515,318. AIR CONDITIONING. Thomas K. Sherwood, Wellesley Hills, Mass., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Nov. 22, 1946, Serial No. 711,703. 8 Claims. (Cl. 62-5.)



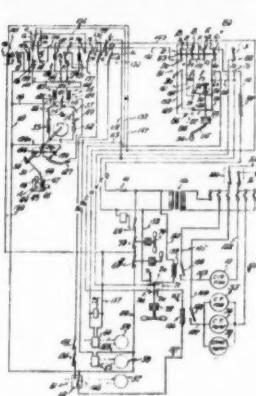
1. A refrigerating apparatus comprising a generator, a condenser, an evaporator, an absorber, conduits interconnecting said elements for flow of a refrigerating medium and an absorption solution, a first means for heating said generator, a second means for cooling said condenser and absorber, a third means for flowing a medium to be cooled in heat exchange relation with said evaporator, and means for controlling the operation of said first and third means, said control means including mechanism for discontinuing the operation of said third means while continuing the operation of said first means for a short period of time, whereby liquid refrigerant supplied to the evaporator after the operation of the third means has been discontinued flows therefrom as liquid refrigerant, and means for conveying said liquid refrigerant as such from the evaporator to the bottom of the generator.

2,515,367. COOLING TRAY FOR BEVERAGE GLASSES AND THE LIKE. Veronica M. Booker, Seattle, Wash. Application Oct. 20, 1948, Serial No. 55,600. 3 Claims. (Cl. 62-89.5.)



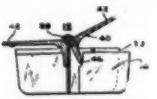
1. An open refrigerated cooling tray for beverage glasses, consisting of: a shallow rectangular metal tray lining; refrigerating coils beneath and around said tray lining formed of a plurality of turns or relatively small tubing; an interliner of non-metallic material providing a complete tray, including the refrigerating coils and adapted to provide collection and drainage for the frosted liquids as they are periodically defrosted; thermal insulating material above, around and beneath said non-metallic lining; an outer sheathing forming in itself a complete and a downwardly extending lip adapted to fit over and inside of the inner lining of the tray; a rack adapted to support beverage glasses and containers; resilient spacing and insulating blocks adapted to space said rack from the inner walls of said tray and from the bottom of said tray; said blocks having opposed grooves adapted to engage adjacent wires of said rack and provide a definite positioning means for said blocks, a drain line from the glass cooling chamber of the tray, and a valve in said line outside of said tray.

2,515,388. AIR CONDITIONING. Sven W. E. Anderson, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Jan. 8, 1948, Serial No. 1,215. 23 Claims. (Cl. 257-3.)



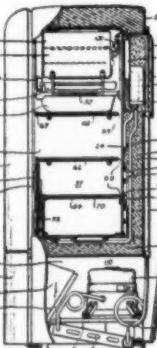
9. In an air conditioning unit, a heat operated refrigeration system having a cooling element, a heating element, a source of heat, a valve, an electric motor for adjusting said valve, an electric control arrangement having selective switch means for energizing said motor to adjust the valve to deliver heat from said source to the refrigeration system to cool the air, and a switch responsive to a humidity condition for energizing said motor to adjust the valve to simultaneously deliver heat to the refrigeration system to cool and dehumidify the air and to the heating element to heat the dehumidified air.

2,515,457. ICE TRAY. Edward H. Lutz, assignor, by mesne assignments, to General Motors Corp., a corporation of Delaware. Application June 19, 1936, Serial No. 28,030. 15 Claims. (Cl. 62-108.5.)



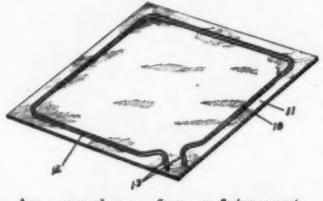
1. In liquid congealing apparatus, the combination of a pan member, a metallic grid member for dividing the pan member into a plurality of ice cells containing ice cubes, means for raising said grid member from said pan member, a plurality of cover portions rotatably attached to said grid member, and breaking members attached to said cover portions and angularly disposed with respect thereto, said breaking member projecting into said pan members and being movable by lifting of said cover members to effect breaking of the ice bond between the ice cubes and the grid member.

2,515,536. REFRIGERATING APPARATUS. Lawrence A. Philipp, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application Jan. 16, 1946, Serial No. 641,465. 3 Claims. (Cl. 62-125.)



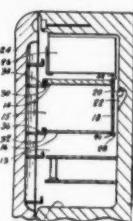
1. Refrigerating apparatus comprising a cabinet having two adjacent compartments arranged to allow restricted air flow therebetween, means operable to freeze substances in the upper one of said compartments and to freeze out moisture from the circulating air in said compartments, air cooling means for cooling the air in the lower one of said compartments to a sufficiently low enough temperature that the flow of air therefrom to said upper compartment is limited and movable valve means for modifying the effectiveness of said air cooling means.

2,515,582. ENVELOPE FOR FROZEN LIQUID REFRIGERANTS. Edwin L. Beckwith, West Newton, and George C. Colburn, Natick, Mass. Application Jan. 8, 1948, Serial No. 1,058. 4 Claims. (Cl. 62-1.)



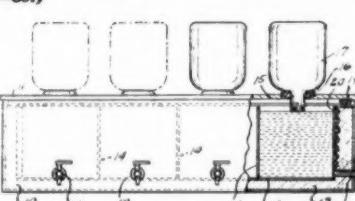
1. An envelope for refrigerant, comprising two rectangular sheets of elastic plasticized vinylite film approximately $\frac{1}{4}$ of an inch in combined thickness, superposed and sealed together in a zone approximately .125 inch wide that extends about the marginal edges of the sheets except at one corner, portions of the sealed zone in that area being spaced from each other and extending in parallel relation, thereby providing an inlet passage to the enclosed area of the envelope which may be closed by forming an intersecting fold vertex.

2,515,584. EDGE ILLUMINATED SHELF FOR REFRIGERATOR CABINETS. Ralph L. Benson, Cincinnati, Ohio, assignor to Avco Mfg. Corp., Cincinnati, Ohio, a corporation of Delaware. Application Nov. 12, 1948, Serial No. 59,450. 3 Claims. (Cl. 240-4.)



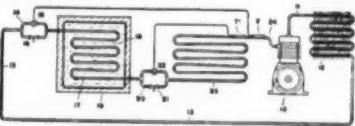
1. A refrigerator comprising a liner forming top, bottom, side and rear walls of a food storage compartment, an evaporator for cooling said compartment, a second food storage compartment disposed within said first compartment, said second compartment including at least one horizontal shelf formed of light-conducting material and a vertically disposed opaque baffle extending parallel to one wall of said liner and disposed in abutting relation with one edge of said shelf, said vertical baffle being spaced from said last-mentioned wall and forming therewith a clear, unobstructed passageway for the passage of air, a recess in said liner opposite said vertical baffle, a light source in said recess for illuminating said passageway and said first-mentioned compartment, and a window in said vertical baffle adjacent one edge of said shelf for permitting light rays from said passageway to enter an edge of said shelf whereby said shelf and the interior of said second-mentioned food storage compartment are illuminated.

2,515,766. REFRIGERATOR ASSEMBLY. Guyon L. C. Earle, Forest Hills, N. Y., assignor, by mesne assignments, to Earle Kitchen Unit Corp., New York, N. Y., a corporation of New York. Application Aug. 11, 1945, Serial No. 610,317. 5 Claims. (Cl. 62-89.)



1. A mechanical refrigerator comprising a lower insulated portion and an upper insulated portion having a smaller dimension from front to rear than said lower portion, resilient gasketing between the members, and bolting means, one inside and one outside the refrigerator, for fastening the upper portion to the lower portion and for tightly squeezing said gasketing to ensure an air-and-moisture tight joint, said gasketing including a protecting member for tubes passing into said refrigerator from the outside thereof.

2,515,825. SINGLE STAGE REFRIGERATION UTILIZING HOLDOVER MEANS. Walter Adams Grant, Onondaga Township, Onondaga County, N. Y., assignor to Carrier Corp., Syracuse, N. Y., a corporation of Delaware. Application March 16, 1945, Serial No. 583,022. 7 Claims. (Cl. 62-115.)



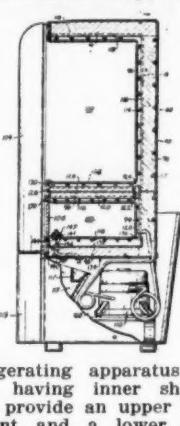
5. A refrigeration system for obtaining certain low temperatures intermittently, and other low temperatures substantially constantly, comprising a compressor, a condenser, a combined heat absorbing and rejection element, a brine tank arranged about said heat absorbing and heat rejecting element, a relatively low temperature evaporator, means for first utilizing said combined heat rejecting element as an evaporator to remove heat from said brine tank and then as a heat rejector after a desired temperature is obtained in said cold holdover to transfer heat to said brine tank for condensing the refrigerant therewith prior to its passage to the relatively low temperature evaporator whereby relatively low ambient temperatures will be maintained about said relatively low temperature evaporator said means including a line connecting the condenser with said element, expansion means in said line, a by-pass line about the expansion means, a valve for closing and opening the bypass, a third line connecting said element and the low temperature evaporator, second expansion means in the third line, a second by-pass line about the second expansion means and a second valve for closing and opening the second by-pass, a cooling element connected in thermal association with said brine tank, means for circulating brine through said cooling element and means for maintaining said cooling element below a predetermined temperature level.

2,515,840. REFRIGERATING DEVICE. Armin H. Rodeck, Watertown, N. Y.



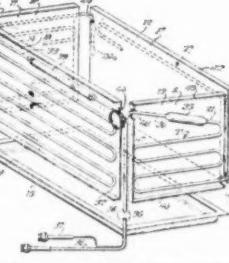
1. A casing made in its upper part of rigid material, in its lower part of resilient material like rubber and the like connected in an airtight manner with the upper part of said casing, a formation of a compacted mass of refrigerating material in said upper part, a solvent body in said lower part and a pervious partition in between to let the solvent penetrate into said upper part contacting said refrigerating mass, when a pressure is exerted from outside upon said yielding part.

2,515,892. REFRIGERATOR INSULATION DRYING ARRANGEMENT. Lawrence A. Philipp, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich.



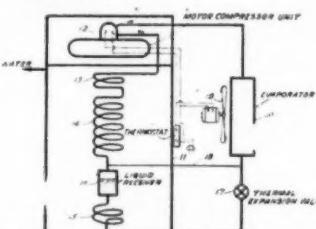
1. Refrigerating apparatus comprising, a cabinet having inner sheet material formed to provide an upper food storage compartment and a relatively high temperature refrigerant evaporator secured to the exterior surface of sheet material adjacent said food storage compartment, a relatively low temperature refrigerant evaporator secured to the exterior surface of said sheet material adjacent said ice freezing compartment, heat insulation positioned adjacent said evaporators, said insulation being provided with a passage to establish a communicating path for flow of moisture laden air from one evaporator to the other, a frost collecting space immediately beneath said relatively low temperature evaporator in open communication with said passage, and a drip receiver positioned immediately below the relatively low temperature evaporator forming a wall of said frost collecting space.

2,515,972. REFRIGERATION EVAPORATOR AND METHOD OF MAKING THE SAME. Howard D. White and Clare H. Kafer, Adrian, Mich., assignors to Revere, Inc., Deerfield, Mich.



1. A continuous tube type evaporator comprising a plurality of plates adapted to define angularly disposed walls of a storage space, each of said plates having connected thereto series connected stretches of tubing and return bends positioned in the plane of said plates, riser members disposed transversely of the tubing stretches of said plates and integrally connecting the last stretch of one section to the first stretch of an adjacent section, said risers being free from the adjacent plates between which they extend, whereby they may be connected to each other when angularly disposed, and notches cut in said flanges to accommodate said risers in a line common to the planes of adjacent plates when said plates are angularly disposed, said risers being adapted to be twisted along their own axes through arcs of at least ninety degrees, whereby said sections may be positioned in the same plane or in superimposed planes or at right angles to each other.

2,516,093. HEAT PUMP WATER HEATER AND METHOD OF HEAT EXCHANGE. Alonzo W. Buff, York, Pa., assignor to V. C. Patterson & Associates, Inc., York, Pa.



1. A hot water heater of the heat pump type, comprising in combination: a hot water storage tank; a refrigerant evaporator adapted to absorb heat from the atmosphere; heat transfer means of the type in which refrigerant is circulated, said means being disposed in heat exchange relation to the water in said tank, extending substantially from top to bottom thereof and including, during normal operating conditions, a desuperheating stage located adjacent the upper part of said tank, a condensing stage located substantially at the midsection of said tank, and a subcooling stage located adjacent the bottom part of said tank in which the refrigerant is maintained in liquid phase; means connecting said subcooling stage to said evaporator, said means including an expansion device; a motor-compressor unit connected to pump refrigerant from said evaporator at low pressure and deliver said refrigerant at high pressure to the desuperheating stage of said heat transfer means; and means responsive to the temperature of the water in said tank to control the transfer of heat thereto.

(To Be Continued)



PUERTO RICO RIOTS FAIL TO HURT DOMESTIC TRADE

P. O. Box 3906
San Juan 19, Puerto Rico

Editor:

Puerto Rico has experienced recently a short period of terror of the communist style and probably inspired by communist designs. We have witnessed street shootings, prison uprisings, and rioting in small scale. These shameful events have brought grief and have caused deep concern to every loyal Puerto Rican.

Your local press may have given a distorted version of these events. They may have been labeled as "revolutionary" or as a political uprising. This is far from being a true picture of the situation.

The government of Puerto Rico is genuinely democratic; a government elected by the people with their votes at a democratic election with political rights fully guaranteed to all. Because of these circumstances, the citizens of Puerto Rico, who are at the same time citizens of the United States, enjoy the benefits of freedom as do the citizens of all democratic countries.

The unfortunate events in the news recently are the work of misled fanatics of an ill-assorted group of irresponsible individuals, moved by a misconception of ideals. Their kind is limited to a minority of 500 to 1,000 individuals out of a population of over two million peaceful, law-abiding citizens. Many of them have already paid with their lives for their mistaken ideal of liberty.

In justice to all Puerto Ricans, it is our earnest desire to convey to you

a true picture of the situation, and we sincerely request your cooperation in passing on the information to your friends and associates hoping that by so doing you will be rendering a valuable service to a people who under no circumstances should have thrust upon them the indignity of the acts of irresponsible individuals.

Commerce and industry have not suffered in the least as a consequence of these acts. There has been no interruption of trade. Factories have continued their normal operations. Banks have not closed their doors. The life of the community has not been altered except in the few places where the riots occurred. Puerto Rico is today going about its business as if nothing had happened. And we feel that this is the best indication that the sudden disorders caused were promptly and effectively controlled by the government.

INSULAR DISTRIBUTORS, INC.

MORE PEOPLE SHOULD NOTE DEALER PROFIT SQUEEZE

Counsell Co.
48 Railroad St.
St. Johnsbury, Vt.

Editor:

A few days before we received our Oct. 16 issue of AIR CONDITIONING & REFRIGERATION NEWS the DeLaval salesman who calls on us was trying to tell us that it did not cost more than 10% for a retailer to do business today. On page 13 of your Oct. 16 issue you showed "What's Happening to Dealer Profit." Your article concerns retailers in refrigeration business who probably get better than DeLaval's regular 25% discount so it should make our salesmen sit up and take notice.

Will you please send a copy of the Oct. 16 issue to Daniel F. Potter, Northfield Falls, Va., so he can read it. I don't want to dispose of my copy or I would gladly send him it.

E. C. HANSON

NEWS CONTEST FITS IN WITH DEFENSE PROGRAM

Air Conditioning & Refrigerating Machinery Association
Southern Bldg.
Washington, D. C.

Editor:

Congratulations on a fine thought and a constructive undertaking for the air conditioning industry as outlined in the announcement of the applications contest in the Nov. 13 issue of the NEWS. Information which will result from this contest will be of great value to the industry development and particularly of timely importance just now because of developments in the government's defense program.

My personal feeling, shared by thousands of others in the air conditioning and refrigeration industry, is that we are exceedingly fortunate in having you and your NEWS associates constantly advancing the industry's cause in every way.

WILLIAM B. HENDERSON,
Executive Vice President

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HOW SOME ADDITIONAL FREEZER ALARMS WORK

Cutler-Hammer, Inc.
315 North 12th St.
Milwaukee, Wis.

Earl C McCracken and
Marilyn G. Fisher
Bureau of Human Nutrition and
Home Economics
Agricultural Research Administration
U. S. Dept. of Agriculture
Dear Sir and Madam:

I have read with interest your article on "Freezer Alarms" in the Oct. 2 issue of AIR CONDITIONING & REFRIGERATION NEWS. I thought you would be interested in some additional types of activating mechanisms which are not covered in your article.

One of the most common methods of activating the alarm signal on freezers is by means of so-called alarm contacts built into the operating control of the freezer. These alarm contacts consist of a separate set of slow make and break contacts operated by the same power element and calibrating means as provide the power to operate the main motor circuit handling contacts. Usually the alarm contacts operate at a fixed temperature increase above the calibration of the main contacts. On controls provided with user adjustment, the alarm calibration is adjusted up and down with the calibration of the main contacts. Such controls may have either contacts which open or contacts which close on rising temperature to activate the alarm.

This arrangement is very economical and consists of a modification of a conventional thermostatic control for refrigerators. It does have the disadvantage, however, of not protecting against failure of the control itself, since a failure in the control would probably also cause a failure of the alarm contacts to operate. Such a control is the Cutler-Hammer bulletin 9525 control.

Another alarm activating device is the Cutler-Hammer bulletin 9545 freezer alarm switch. This device consists of a small beryllium copper diaphragm which operates directly on silver-to-silver contacts for maximum reliability. This device is ordinarily provided with a length of capillary tubing similar to a conventional domestic refrigerator control and contains a similar vapor charge.

With the vapor charge a relatively small amount of a volatile material is contained within the power element system. The volatile material is selected to provide a positive pressure at the calibrated temperature. Because the charge is limited, only a small amount of the vapor is condensed in liquid form at the point being controlled, which will be the end of the capillary.

Because of the use of the capillary, the switch mechanism may be located outside of the refrigeration compartment as convenient, and only the end of the capillary need be at the cold temperature being measured. By the same token, the electric wiring will definitely be outside of the refrigerated compartment.

It will be noted that the principle involved is the same as that used for the operating controls. We have produced a large number of these devices and they have been quite successful.

R. O. PERRINE,
Supervising Engineer,
Development Dept.

HAROLD LASKI DOESN'T PRACTICE HIS PREACHING

Sandee Mfg. Co.
Chicago, Ill.

Editor:

In the Nov. 13 issue of AIR CONDITIONING & REFRIGERATION NEWS you quote Harold Laski. "Everyone knows how easily human personality becomes a unit in a statistical talk for the bureaucrat."

I quite agree with that observation, but from what I've heard of Mr. Laski, one of his principal aims is to make every human personality become a unit in a statistical talk for bureaucrats.

THOMAS SIMA

VERMONT READER SAYS

Taplin's Refrigeration Service
Barre, Vt.

Editor:
We like "They'll Do It Every Time" and editorials like "How Foolish Can We Get?" and others.

Too bad more people can't read these.

PAUL L. TAPLIN



ELECTED as officers of the Delta section of REWA at a recent meeting were: R. E. Warwick, director; Hazel McQuiston, secretary-treasurer; Harry A. Dawson, president; and Dave Galloway, vice president.

Harry Dawson Heads Delta Section of REWA

BILLOXI, Miss.—Harry A. Dawson, of Acme Refrigeration Supplies, New Orleans, was elected president; Dave Galloway, of Cooling & Heating at Pensacola, Fla., was elected vice president; and R. E. Warwick of Plumbing Wholesale Co., Jackson, Miss., was reelected director of the Delta Refrigeration Wholesalers Association, a section of REWA, at the group's annual meeting here.

Hazel McQuiston, of United Refrigeration Supply Co. at Memphis, was reelected secretary-treasurer of the organization.

The Delta section particularly active in cooperative effort to promote unity of policy in operation held, as a part of their executive session, a joint meeting with the various representatives of equipment manufacturers, for the purpose of bringing into the open the numerous problems facing wholesalers.

Prominent among these were, of course, the problems of supply on "Freon," copper tubing and fittings. While individual problems common to all of the wholesalers in relation to specific manufacturers were discussed, an outstanding question was raised by them all and addressed more or less to each other: "What is the wholesaler doing at this time to protect himself against depleted inventories in face of an impending shortage?"

Representatives of the manufacturers agreed among themselves in their challenge to the wholesale field that none had been able to build up appreciable reserve stock inventories, therefore, the wholesaler could look to increasingly more advanced shipping dates. That shortages were on the upturn and that while none professed to know the course on fluid policy of their companies in face of the military situation, they pointed out that "anything could be expected."

New superintendents in the refrigerator division are E. J. Fisher, who will be in charge of the refrigerator unit section; M. F. Payne, in charge of the refrigerator cabinet section; and G. J. Kane, in charge of the freezer section.

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ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS AVAILABLE

DEVELOPMENT ENGINEERS—Engineering graduates with two or more years experience wanted for design and development engineering on expanded lines and new equipment of all types of air conditioning products including self-contained and remote type coolers, sealed and open type refrigeration compressors, oil and gas fired furnaces (and boilers), heat pumps and many others. Creative, analytical and experimental abilities with potential for long range growth are desired. Extra experience or unusual qualifications given special attention. Apply in writing, give resume of training, experience and interests to GENERAL ELECTRIC COMPANY, 5 Lawrence Street, Bloomfield, N. J.

SALESMAN FOR Hussmann distributor in San Diego, California. Must be experienced in food store layout and equipment. Salary, expenses and bonus. This is an excellent opportunity for the right man. Must have proven record and best references, none other need apply. WRIGHT REFRIGERATION, INC., 4025 Pacific Highway, San Diego, California.

FIELD SERVICE Representative wanted by large Midwest appliance manufacturer. Former distributor service manager or person with field service experience. Free to travel small territories. This is an excellent opportunity with unlimited possibilities for advancement. Write, stating complete history, references, background and experience. Replies held confidential. BOX 3636, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

WHOLESALE SEALED unit rebuilding. We will rebuild and convert your unit to "Freon-12." One year guarantee. Write for price list and shipping instructions. ADVANCE REFRIGERATION COMPANY, 829 East McNichols Road, Detroit 3, Mich.

REFRIGERATOR DOORS. 3'6" by 6'6" double batten auto close doors complete with removable track heads for a 7'2" track. 1½" corkboard insulation, 16 gauge metal clad. Brand new. \$95.00 each. Freight prepaid in U.S. Door height will be altered for anything up to an 11 ft. 2 in. track for \$15.00 additional. BIMEL CO., Cincinnati, Ohio.

TO BALANCE inventory will liquidate plastic transparent frozen food pictures at one-half cost. Have 440 8 by 10, 75 cents each; 4224 4 by 6, 35 cents each. Samples on request. VICTOR PRODUCTS CORPORATION, Hagerstown, Maryland.

BUSINESS OPPORTUNITIES

ENGLISH MANUFACTURERS of domestic refrigerators either complete or hermetic and absorption type units and evaporators separately for local assembly, wishes to contact lively agents in all U.S.A. states. Make use of devaluation while it lasts. Airmail at once for free lists and particulars. LONGFORD ENGINEERING CO., LTD., Dept. A.C., Bognor Regis, Sussex, England.

COMMERCIAL REFRIGERATION sales and service business. Selling due to injury. Earning thousand month. Good lines. Good stock. Good service contracts. Southwestern health-tourist-army center, over 100,000 population, building 30 million yearly. Good stock service parts. Selling at inventory value. Excellent opportunity. BOX 3640, Air Conditioning & Refrigeration News.

MISCELLANEOUS

WANTED—TO contact servicemen and contractors who wish to enter the sealed unit rebuilding field along with their other work and take on additional business. Send postcard with name and address to H. CUSTER, P. O. Box 98, Center Line, Mich.

American-Standard--

(Concluded from Page 1, Column 4)
let and outlet connections, with wide flanges located on top of the metal jacket, are said to permit "quick and effortless" installation.

The air is cleansed by two large, readily accessible filters. Compression mufflers are built in, and all moving parts are cushion-mounted. Access for inspection and servicing is easy, according to the company.

The cooling unit can be used in new homes, as well as connected to the existing forced warm air equipment in older homes.

During the heating season the winter air conditioner operates in the normal manner. The cooling unit is shut off, and a damper bypasses the air around the cooling coils. During the summer months, the heating unit is turned off, except that the regular blower is used to circulate the cooled and dehumidified air through the warm air duct system.

The rest of the American-Standard exhibit is made up of recent additions or improvements to the regular line. Included is the Winterway, for instance, an oil-fired winter air conditioner announced some months ago, but shown at the Heating & Ventilating Exposition for the first time.

The American-Standard booth will flank the corridor between the two exhibit halls. The display will be larger than usual, not only because of the new products featured, but also because four of the company's subsidiaries will be represented with their latest developments.

These subsidiaries are the American Blower Corp., Detroit Lubricator Co., Kewanee Boiler Corp., and Ross Heater & Mfg. Co.

General Air Conditioning--

(Concluded from Page 1, Column 2)
company's decision to merchandise through distributors.

Janney-Semple-Hill has given the California firm excellent coverage of Minnesota, the Dakotas, and portions of Iowa and Wisconsin.

The General Chef range-refrigerator combination, manufactured by the Los Angeles concern is available in three models. All are 4-cu. ft. refrigerators.

They are combined with four gas burners or with three electric burners for 220 volt operation or with two electric burners for 110 volt use.

The company's 1950 sales were said to be running 100% over '49.

Laband said that negotiations are under way with distributors in other sections of the country.

At the same time the Los Angeles manufacturer told of the extensive consumer advertising campaign planned by his company in 1951.

Rush Stallings Opens Store

MONTGOMERY, Ala.—Handling a number of brands of appliances, the Rush Stallings Appliance & Home Supply Store has just opened for business at 218 Lee St.

Send for FREE CATALOG on Your Letterhead



TYPHOON

Specialists in Packaged AIR CONDITIONERS
1/2 to 20 TONS
Evaporative Condensers
3 to 20 TONS

Backed by more than 40 years of air cooling experience

TYPHOON Air Conditioning Co., Inc.
794 Union Street, Brooklyn, N.Y.

Heating, Ventilating Show Jan. 22-26 To Put Spotlight on Product Innovations

NEW YORK CITY—Newsworthy innovations in a number of its many departments will highlight the 10th International Heating and Ventilating Exposition, spreading throughout the Commercial Museum at Philadelphia, Jan. 22 to 26, 1951.

The exposition is comprised of all the varieties of equipment suited to the requirements of heating, ventilating, and air conditioning.

New at the exposition this year will be improvements in direct radiation and there will be more adherents among the equipment manufacturers to that method of distributing heat. There will be many disclosures for forced air heating and cooling. There have been important improvements in air conditioning from every point of view, including a so-called "air-renewer."

There is considerable engineering interest in a new high velocity air conditioning system, which uses only half the conventional quantity of air, yet performs effectively through the use of a specially developed diffuser, having many points of technical importance. It is designed to cut down duct air velocities from as much as 5,000 f.p.m. to speeds under 2,250 f.p.m. and then inject the air into the surrounding atmosphere in such a manner as to accomplish thorough mixing without creating drafts.

NEW COOLING SYSTEM HAS LOW OPERATING COST

Chilled air, as much as 10° cooler than that supplied by conventional systems, is mixed by the new method of high velocity injection without drafts or excessive noise. This new system is having its initiation in a million-dollar installation in a Pittsburgh department store from which a remarkably low annual operating cost is anticipated.

Low velocity air diffusion is advocated by another exhibitor and employed with satisfactory results through an exclusive construction using perforated metal plates to reduce outlet pressures to draftless proportions. It is claimed that the conventional diffusion temperature differential may be raised as much as 40%, requiring 40% less air to handle a given load. There will be a number of other exhibits revealing the latest improvements and patterns in ceiling diffusers, grilles, registers, and air control devices for duct systems.

A line of development that has seen marked improvement since the last exposition is in suspension type forced-air furnaces especially designed for ranch-type houses and small home units generally.

MANY VARIATIONS OF DUCT LAYOUTS WILL BE SHOWN

A number of manufacturers of forced air equipment are offering many different versions of the principle of using ducts and registers along the outside walls. One manufacturer's counterflow type furnace, designed especially for such applications, is fabricated from die stampings, along automotive lines. The installation of this furnace in basementless, slab floor units, requires the laying of 8-in. round ducts throughout the perimeter of the building. These are permanently incorporated when the slab is poured, and conducts heat into the slab to warm the floor, forcing heated air to registers under the windows and returning cold air from a high wall register.

An innovation for single and multi-story buildings is a new individual room air conditioner made in both floor-mounted and suspended models, whose quiet operation and individual controls permit wide selectivity in housing equipment. Another system, which owes its origin to wartime experience with heating and

ventilating problems under the unusual conditions existing in airplanes, uses pre-fabricated ducts only 3 1/2 in. in diameter in conjunction with "blenders" to provide circulation and recirculation of air.

It is calculated to give one complete air change in each room every seven and one half minutes. Blending may be so effectively carried out that the spread between floor and ceiling temperatures is cut down to as little as three degrees, it is claimed. Room temperatures are regulated individually, although a single thermostat controls the furnace.

WHAT WILL BE EXHIBITED IN RADIANT HEATING

Radiant heating by means of hot water or steam circulated in piping embedded in floors, walls, or ceilings, will be shown in varied applications at the exposition, notably in a number of different types of baseboard radiators and convectors. One such, employing finned tube radiation, is offered as the smallest unit available having a sufficient heat output per linear foot to heat an average residence using outside walls only.

Radiant heating finds a more spectacular envelopment in the "Electricglas" heating panels, to be exhibited at the exposition for the first time. This new product of a 10-year research program is based on a specially electrified panel of tempered glass which has a chemical heating

element permanently fused into it. This panel is framed in units of several sizes and shapes for mounting at pre-selected locations on outside walls, under windows, or in baseboard panels. The panels are connected into the local electrical supply and are thermostatically controlled through relays.

Among complete air conditioning units, one manufacturer will offer year-round air conditioning of the absorption refrigeration type. In this system steam meets the heating requirement in winter and operates the absorption refrigeration system in summer. Gas-operated steam generators supply the steam for several models; others draw steam from any available outside source.

Another exhibitor will present a line of liquid chillers, suitable for a number of different purposes. These units, which are complete and self-contained, may be used in summer to chill the air in forced warm air heating systems. Or, they may furnish chilled water circulation in hot water and steam heating systems. Similar units cool the drinking water supply in office buildings and in manufacturing plants perform such services as cooling machine tool coolant solutions on a broaching machine production line.

Another exhibitor will show 10, 15, and 20-ton packaged units, adapted to large supermarkets and theaters; sizes heretofore considered impractical for free-standing application, according to the manufacturer.

One line of air conditioning equipment has been developed entirely to satisfy the requirements of classroom conditions in schools; another is an ice-cell air conditioning unit designed for peak loads of short duration.

Points Covered by ESA--

(Concluded from Page 1, Column 3)
apply to growth industries—like television?

Special provisions will have to be made for companies whose operations have experienced an abnormally rapid growth as a result of new products. This was also given as the answer as to how new products should be priced, or how new firms should establish prices. But pricing of new products and pricing by new companies should generally be in line with prices of previous models of established sellers.

What are the effects of the pricing standards on the "LIFO"—last-in, first-out—system of inventory accounting, or other systems of accounting?

The standards are not inconsistent with any such accounting systems. Distributors and retailers should follow their regular method of determining actual inventory cost, whether on a "lift" basis or not.

H. M. Switzer Acquires Geneva Clock Defroster

NEW ALBANY, Ind.—H. M. Switzer, president of the H. M. Switzer Mfg. Co. here, has announced that his firm has obtained all rights to the Geneva automatic electric clock defroster from Equi-Dyne, Inc. of Chicago.

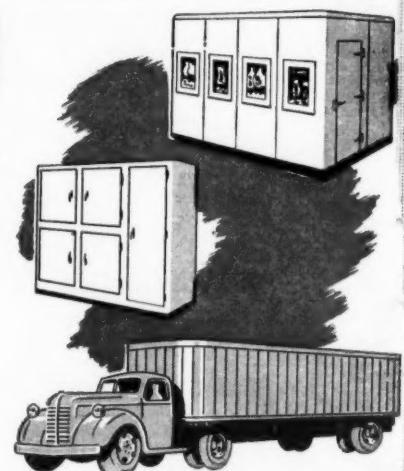
Switzer said that his firm will manufacture the clock defroster while George T. Stevens & Associates of Chicago will market the device nationally through regular appliance and housewares outlets.

It is expected to retail at \$12.95.

No Shrinkage! No Blast! with these new Bush Cooling Units

BUSH HEAT TRANSFER PRODUCTS are expertly designed and engineered . . . fabricated of top-quality materials to rigid specifications . . . carefully tested and accurately rated. Result: easier selling, faster installation, less service . . . more PROFIT. All this adds up to more customer satisfaction, and more

business for you. Get acquainted with the BUSH Factory Representative in your territory. He's an expert refrigeration and air conditioning engineer familiar with newest application techniques . . . a good man to know. He'll be glad to help with plans and specifications on your next important job.



Buy the Best—and the Best is Bush

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